A Methodology for the Prioritization of Invasive Plant Management in Alaska

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List of Acronyms

AHP	Analytical Hierarchy Process
DOA	Division of Agriculture
EDRR	Early Detection and Rapid Response
SME	Subject Matter Expert
MCDA	Multi-Criteria Decision Analysis

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Abstract

The control of invasive, non-native plants is of increasing concern in ecosystem management as invasive plant species are found to be threatening natural resources through the disruption of biodiversity, habitat structure, and ecosystem processes across the world. State Government leadership in invasive plant management policy is required to ensure efforts are coordinated and cost effective. As resources for managing invasive plants are limited, the need to evaluate and rank non-native species is a primary concern before expensive management is attempted so that the most threatening species may be addressed first.

An objective, repeatable and clearly defined methodology for prioritizing invasive plant management within Department of Natural Resources, Division of Agriculture (DOA) was developed. The development process reviewed literature on the philosophy of decision analysis and various case studies in its application to natural resource projects and act as a guide for the development of an initial process framework. Subject matter experts were engaged to develop the decision criteria using a Delphi survey technique to collect information on experts' current priorities and tolerances for invasive plants. The final product includes a process diagram, a summary worksheet, and a detailed record of the evaluation decision, rationale, and supporting resources.

Key Words: Invasive, Policy, Regulation, Prioritization, Decision Tools, biological invasion

Introduction

The control of invasive, non-native plants is of increasing concern in ecosystem management as invasive plant species are found to be threatening natural resources through the disruption of biodiversity, habitat structure, and ecosystem processes across the world (Lodge et al., 2006). These plants species are a subset of a larger classification of non-native, invasive species which, when evaluated collectively, cause major economic losses adding up to almost $120 billion per year in the United States alone (Pimentel, Zuniga, & Morrison, 2005). The economic impacts are realized through environmental degradation, lost agricultural productivity, impacted recreation and tourism opportunities, and expensive management costs that are continuing to grow as new species are introduced and existing infestations expand into new environments.

Background

Impacts

When you separate plants from other taxa, the economic impact in the U.S. Is estimated to be approximately $35 billion per year (2005). Species such as Purple Loosestrife (*Lythrum salicaria*) and Hydrilla (*Hydrilla verticillata*) have lasting impacts across the nation. Purple Loosestrife was introduced to the US in the early 19th century as an ornamental plant has been spreading at a rate of 115,000 ha/year, can be found in 48 states, and costs approximately $45 million per year in control costs and forage losses (Thompson, Stuckey, & Thompson, 1987). Florida alone spends $14.5 million to control Hydrilla in its waterways and despite this expenditure, Hydrilla infestations in just two Florida lakes have prevented recreational use, causing $10 million annually in losses (Pimentel et al., 2005).

Invasive plants impacting agricultural areas require producers to use $3 billion a year in herbicide control for these species.

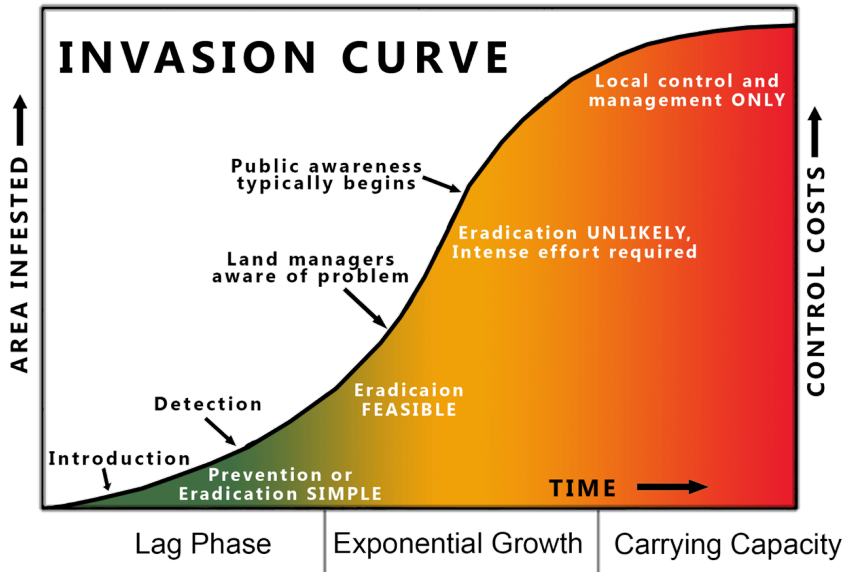

Figure 1 Invasion Process

So why spend the money to manage invasive plants? Invasive species, regardless of whether it is an aquatic or terrestrial species, can change the basic structure of the habitat they invade. Aquatic and semi-aquatic species such as the Purple Loosestrife and Hydrilla mentioned above alter fish and wildlife habitat by choking waterways, replacing native wetland plant communities, and growing so densely that it can be difficult to navigate (Pimentel et al., 2005). Terrestrial plant species like Cheatgrass (*Bromus inermis*) dramatically change the natural and agricultural landscapes. Since the invasion of Cheatgrass into the grassland and rangeland ecosystems of Idaho and Utah, fire occurrences jumped from once every 60-110 years to about every 3-5 years reducing the native vegetation and the animals dependent on them (Kurdila, 1988). Other terrestrial plants are toxic to grazing wildlife and livestock. When you look at the numbers in the context of potential losses- the $3 billion a year spent on herbicide versus the approximately $24 billion in lost crop production-the justification for spending the money becomes more apparent.

Definition

The term "invasive" is often confused with other similar, but critically different terms. In the context of this paper, invasive is defined as species that is not native to a given geographic area, that is or has the potential to harm the environment, economy, or human health (Clinton, 1999). This definition highlights the key distinction between something that is non-native and something that is invasive: the potential to do harm. In terms of plants, this harm typically results from disruptive or aggressive growth which impacts the environment and the economy more than human health, but there are examples of human health impacting plant species. Giant Hogweed (*Heracleum mantegazzianum*), for example, which causes phytophotodermis in humans and other mammals which can result in blisters, long-lasting scars, and blindness. For the purposes of this paper, the focus will be on the more common environmental and economic impacts associated with invasive plants.

The non-native and invasive distinction is important to make because the majority of plants used in agriculture, forestry, and horticulture in North America are in fact not native to this region, however they carry out their intended purpose, benefiting humans, and causing no damage (Reichard & White, 2001).

Only a small portion of introduced, non-native plants escape from cultivation and an even smaller portion survive and produce self-sustaining populations. A more detailed process of invasion is described below and in Figure 1.

Process of Invasion

The process of biological invasion begins with a species being carried in a pathway from one ecosystem to another. This transport can be accidental or, as is most often the case, purposeful or intentional (Pimentel et al., 2005). Intentional transport happens frequently as a part of the horticultural or agricultural trade, where plants are brought in because they can provide a purpose (e.g. aesthetics, food production, erosion control). Accidental transport has increased dramatically in the last 50 years with the increase in population, rapid movement of people and goods, and the alteration of the environment (Pimentel et al., 2005). These introductions are often incidental to the primary human purpose including organisms in ballast water, or propagules hitchhiking on equipment or shipments.

After a species is transported, whether intentional or accidental, and introduced to a new area the species either goes extinct or it establishes a self-sustaining population. If a self-sustaining species spreads widely and becomes abundant, the species may then be classified as invasive (Lodge et al., 2006). This expansion, which can occur sometimes after a lag phase (Fig. 1) of many years in which populations remained small and localized, can cause detectable ecological changes and can ultimately be harmful. Eventually, if this expansion continues, it can be characterized by exponential growth and the invaded ecosystem will reach its carrying capacity for this species. The previous explosive growth will plateau due to the species occupation of all available habitats. This biological process is common to all invasions (introduction, explosive growth, and plateau) (Devin & Beisel, 2007) and is graphically represented in Figure 1.

This invasion process is often represented as a phased model relating geographic area impacted by a species over time. The policy implications become clear when these common processes and probabilistic transitions are recognized and related to possible management strategies (Lodge et al., 2006).

Management of Invasive Plant Species

The first management opportunity occurs early in this process, even before a species point of introduction. It is widely recognized that prevention is the most cost-effective stage in which to managed invasive plants, though it is possible only at this early phase (Skinner, Smith, & Rice, 2009). The adage "an ounce of prevention is worth a pound of cure" is very relevant to invasive plant management in terms of both financial costs and ecological impacts. Once a highly invasive species arrives, it is difficult to prevent rapid spread. In the case of the Purple Loosestrife example, one plant can produces thousands of seeds that are readily transported to new environments via stream flow or birds making it difficult and costly to monitor and control (Lodge et al., 2006). Public education is the primary prevention tool and efforts typically focus on disseminating information to the public about the invasive plant risk and best management practices relating to that species. Prevention may also include industry codes of conduct or more directed regulatory action such as mandatory inspections or quarantines.

Following initial establishment there is typically a lag phase before an invasive plant begins to rapidly increase its geographic range (Fig 1). Attempting eradication, or complete removal of all populations, is the priority during this phase, though there is a relatively small window of time where it may be feasible. Once a species is well established, eradication is costly and sometimes impossible. Management tools during this stage revolve around the concept of "Early Detection and Rapid Response (EDRR) programs" which focuses on detecting the invasive plants at low levels, before they are widespread, when complete

removal is possible. These efforts often include the promotion of high priority species reporting through citizen science groups or strategic monitoring of vulnerable habitat to identify opportunities for eradication.

Both prevention and eradication efforts offer opportunities to eliminate the economic and ecological impacts of an invasive plant species and are therefore the most desirable management scenario. However, these tools require a very proactive approach to invasive plant management with the support of appropriate technology for both monitoring and removing species, political will, and resources (2006). In a recent example of successful EDRR eradication, Caulerpa (*Caulerpa taxifolia*), a tropical marine alga commonly referred to as "killer alga", was discovered in a California lagoon in June 2000. This same species has devastated Mediterranean Sea habitats over a 15 years expanding from a small patch into a 50 square mile infestation off six countries. Within 17 days after discovery in California, a team of resource agencies, marine biologists, and stakeholders came together, developed a plan for eradication, and began management activities to protect the coastal ecosystem. By 2005, approximately $5 million had been spent and all criteria had been met to declare Caulerpa eradicated (Woodfield & Merkel, 2006). The successful eradication project was a result of: (1) timely identification and notification of the infestation; (2) the proactive staff of the regulatory entity who deemed the invasion tantamount to an "oil spill", thus freeing up emergency funding; (3) the mobilization of diver crews already working at the site (Anderson 2005).

When the invasion process continues beyond initial establishment, it is increasingly unlikely that an eradication effort will be successful and management activities shift to a control focus. The goal of controlling an invasive plant species is to prevent the spread into yet uninfested areas which can be achieved by preventing reproduction and dispersal, treating the perimeter of a large infestation, and eliminating small satellite infestations (Zimmerman et al., 2011).

At the final stages of the invasion process, the geographic breadth of an invasion is so extensive that effective control is unlikely without massive resource inputs (Skinner et al., 2009). The management goal is to suppress the species focusing primarily on the highest priority sites. Many of the same management efforts described for "control" are employed for suppression, however the emphasis for suppression is to reduce aggressiveness of established populations and limit anthropogenic movement.

Management efforts focused on controlling and suppressing an invasive plant population will not result in eradication and therefore will never fully eliminate the impacts or costs associated with that species.

With these accumulating threats to natural resources governments, departments, environmental managers, and conservationists are all facing escalating pressure to address and resolve a diversity of invasive species issues in a coordinated and cost effective manner (Hulme, 2006). The coordination is increasingly critical as the impacts of invasive species are only growing, drawing in a more diverse stakeholder audience including public and private landowners, policy makers, non-profit organizations, and agency representatives. This stakeholder diversity necessitates clear objectives, processes, and communication to ensure that appropriate stakeholder are aware of invasive species impacts, both potential and realized, and impacts from the proposed management responses. Issues related to invasive species can be particularly challenging to effectively communicate because of the intangible nature of preventing something from occurring. The most effective management window of time is either before introduction or soon thereafter, as discussed above, when the general public perception is that there is not an issue. Unfortunately, it is not until the invasion process has progressed to "exponential growth" that the public and other critical stakeholders really perceive and issue and start actively supporting management. At this point, impacts may be so widespread that a cost-effective strategy may, in fact, be very costly.

Invasive Plant Policy in Alaska

Alaska has remained relatively unaffected by the negative consequences of non-native plant establishment that has plagued most regions of the world. Our relatively cool climate and remote location have kept many invaders out, but in recent years, land managers in Alaska have become acutely aware of the increasing populations of invasive plants in urban areas, on roadsides, and in waterways. Species like Purple Loosestrife, which was once thought incapable of producing seed in Alaska's cold climate, have been found invading Anchorage's Westchester Lagoon. Alaska's first aquatic invasive plant, Elodea (*Elodea canadensis*) has been documented within the last four years drawing attention to the vulnerability of Alaska's water resources to similar, devastating species like Hydrilla. While most invasive plant populations in Alaska are small and largely restricted to anthropogenically disturbed areas, a number of species have begun to threaten intact biological communities and impact ecological conditions (Carlson 2008), which emphasizes the need for effective policy and priorities.

The geographic and climatic insulation that has largely protected the Alaskan landscape has also created a unique set of challenges when it comes to managing invasive plant issues. Dramatic population growth in the last 50 years has driven a respective increase in the pathways for invasive plants through more frequent and diverse transportation opportunities, increased human footprint, and infrastructure development in remote areas. These pathways and others represent an increase in the risk that a new invasive plant will be introduced and will thrive in Alaska. As the probability of introductions increases, so does the scale of the management efforts. Areas that were once considered too remote, now need to be incorporated into a monitoring and management plans. Logistically, this is incredibly resource intensive as the majority of Alaska's landscape is only accessible by plane. The logistic and resource requirements speak to the feasibility of management and, again, emphasize the need for a strategic approach to management policy.

In Alaska, much of our economy is driven by our natural resources. According the Alaska Department of Commerce, Community & Economic Development (2011) direct visitor industry for tourism is worth $2 billion annually including fares paid to travel and expenditures while in state. Alaska's sport and personal-use fisheries alone are worth more than $500 million annually. These figures don't include the commercial fisheries, the agricultural industry, or those that rely on subsistence hunting or fishing. Because the problem is at a relatively early stage compared to other areas of the country, Alaska has the opportunity to develop cost-effective solutions that protect the vastly critical natural resource industries in the state.

In Alaska, the Department of Natural Resources, Division of Agriculture (DOA) maintains programs and regulations aimed at managing invasive weeds through inventory, control, coordination, and outreach efforts statewide. The DOA maintains the Plant Health and Quarantine Regulations as they pertain to invasive plant management in Alaska, which includes the designation and enforcement of prohibited and restricted noxious weeds, authorities to inspect commodities, issue emergency quarantines, and direct management based on priority. Though some form of invasive plant regulations have been on the books since statehood, an operational invasive plant management program (beyond restricting noxious agricultural seed) has only been functional within the State structure since 2008. Since that time, progress has been made through the establishment of a Statewide Strategic Management Plan (Graziano 2009) and planned regulatory changes that allow for prioritized, adaptive management of invasive plants.

Goals for the Project

Given the complexity of managing Alaska's natural resources in such a diverse stakeholder environment, with complicating logistical limitations there is a strong need for a clearly defined, strategic processes to managing invasive plants. Theoretical frameworks are emerging to align management responses with the sequential stages of invasion processes to ensure resources are applied to priority issues (Hulme 2006). This paper reviews the development of such a methodology to address the complex and growing invasive plant management issues facing Alaska. This methodology is based on a stakeholder-driven framework through which invasive plant management decision processes can be more objective, transparent, and consistent.

Literature Review

Decision analysis tools and case studies were reviewed and evaluated and insights were used to develop a decision tool tailored for invasive plant management.

Decision Analysis Tools

Decision-making at a policy level most often requires consideration of competing requirements such as standardization versus flexibility or the conflicting goal of data extraction versus empowerment. As a result of this conflict and resulting complexity, practitioners often turn to decision analysis tools, which involve a set of methods based on axioms of consistent choice allowing for cost/benefit style approach that considers multiple criteria (Keefer, Kirkwood, & Corner, 2004). Multiple criteria decision analysis (MCDA) attempts to solve problems that are characterized as a choice among alternatives by modeling the decision process. This modeling is done by dividing the decision into smaller, more understandable parts that can be objectively analyzed to create a systematic, quantitative approach to making better decisions (Keefer, Kirkwood, & Corner, 2004). The MCDA process typically involves a numerical scoring process that allows the comparison of one option to others on a single scale. Scores can simply be added or averaged, or a weighting mechanism can be used to favor some criteria more heavily than others. Other models may rely on thresholds or an outranking process, or a combination of these theoretical foundations (Linkov et al., 2005).

Decision-making is a dynamic process driven by feedback. The models designed to manage and structure this dynamic process often work best with objective measures that can be reinforced with mathematical deduction (Zeleny & Cochrane, 1982). In reality, human preference is difficult to measure objectively and often, a final decision unfolds through a process of learning, understanding, information processing, assessing, and defining the problem and its circumstances-A process where personal knowledge may be worth more than strict objectivity. A decision process must find an objective approach that recognizes both the need for the human, subjective element while at the same time coping with the unreliability.

Decision Analysis and Stakeholder Management

Conventional thinking on natural resource management encourages a technical approach to problem solving which involves a linear, top-down process that often excludes the knowledge, preferences, and values of the people affected or concerned by the outcome (Groot & Maarleveld, 2000). There is increasing recognition that positive changes are more likely to be initiated when the attitudes, beliefs, or preferences of the people managing or depending on resources are considered and incorporated in the

development of solutions (Ramirez, 1999). Lynam (2007) describes different approaches for incorporating stakeholder values as a continuum ranging from stakeholder knowledge extraction where the extracted values are then used to inform the decision process to a more co-managed synthesis process that involved closely managed and consistent joint-decision making process. A clear objective and understanding of the complexity will help distill the essential an helpful elements from any distractions and will inform the approach most suited to the decision process at hand.

Decision Analysis and Invasive Plant Management

A wide variety of decision tools have been developed for various invasive plant management purposes in recent years. These models range from weighted-score analysis to strategy to strategy-selection decision trees. These assessment models generally share a series of questions evaluating spatial characteristics, known or potential impacts on resources of value, biological characteristics, and ease of control (Carlson et al. 2008). Several example models and methodologies were reviewed from organizations and agencies around the country.

In Alaska, the University of Alaska Natural Heritage Program has developed an Invasiveness Ranking System for Non-Native Plants of Alaska which ranks non-native plants for their invasiveness potential species on a scale from 1 to 100 based on questions in four broad categories: ecosystem impacts, biological attributes, distribution, and control measures (Carlson et al. 2008). This system provides a comprehensive biological assessment of plant species and purposefully does not address any one management decision as it is intended to be used by many different organizations and agencies to develop their own priorities. Ultimately, this ranking provides a critical assessment of impact, which can form the basis for any further prioritization of management goals in Alaska.

A decision analysis tool developed by the Nature Conservancy in New York (Zimmerman et al. 2011) was created to assist in determining whether invasive plant management will be successful at the project level based on established conservation goals. The developed analysis includes a series of decision tree frameworks that evaluate the appropriate control for a species based on the threat it poses as well as the potential success of that control effort based on socio-political environment and available resources. This type of exhaustive evaluation process is appropriate at a local scale where discrete infestation data is available and financial resources are defined. While incredibly valuable for one organization, this structure does not offer the broad perspective necessary for a statewide prioritization tool. Despite the differing scale of focus, this decision tool offers a well-developed decision-tree structure and supporting documentation process.

Research Methods

After reviewing the decision analysis literature and the application of these processes in both the natural resource management field and specifically in the invasive plant management field, it was clear there were many options for developing a strategy for an Alaskan process. MCDA methods can incorporate numerical scores like the Alaska Natural Heritage Program's Invasiveness Ranking (Carlson et al. 2008), though a simplified approach was more desirable for this project's focus on categorization by management directive. Many decision analysis tools were structured around some sort of a visual process diagram such as a decision tree. The Nature Conservancy example (Zimmerman et al. 2011) offered a series of decision trees that evaluated invasive plants at a local scale. While this level of detail does not offer the broad perspective necessary for a statewide prioritization tool, the process and accompanying documentation provide a strong framework for this project.

Based on the literature and case study review an initial framework was conceptualized to include a step-by-step criteria-based decision process that would assist in categorizing species based on commonly grouped control strategies. This framework provides a clearly defined process for evaluating species that can be repeated to determine each individual species management priority.

Delphi Technique

As identified in the literature review, there is a recognized benefit to incorporating stakeholders in development of solutions for natural resource management issues. From this research a Delphi process was created to inform the development of the decision process. The results from this Delphi process were incorporated into the actual criteria that make up the decision process. To do this, key stakeholders and subject matter experts were asked to participate in a Delphi process to elicit information about current invasive plant management strategies. The first stage of the Delphi process was to collect initial information through an online survey process. This information was the starting point for developing the decision criteria.

Survey

The survey was developed to target subject matter experts and other key stakeholders involved with invasive plant management and policy in Alaska including state and federal land management agencies and other organizations and individuals with significant interest in the issue as demonstrated by previous request to receive information. A base knowledge of technical language and concepts was expected of participants, but participation was not limited to known stakeholders. An invitation to participate in the survey was sent directly to previously identified stakeholders, and was also made available on the publicly accessible agency website with an invitation for other organizations and individuals to participate. The survey was made available via Survey Monkey for a total of 14 days with a reminder notice sent to all identified stakeholders the last day the survey was available.

Questions were designed to gather information about participant's current policy, priorities, and risk tolerance for invasive plant management. Participants were asked to rate the importance of given factors in determining current invasive plant management strategies as Very Important, Important, Slightly Important, and Not Applicable for 16 different factors that are commonly associated with invasive plant management. This series of questions was targeting the factors were most frequently identified as critical elements to an existing invasive plant management program or policy. Conversely, this question would also identify any factors that are relatively unimportant, or not applicable, for stakeholders. This information would be used to develop criteria that would accurately reflect stakeholder priorities.

Additionally, respondents were asked to identify species they would categorize into commonly grouped management goals including prevention, eradication, and control (defined below), which are reflected in the output of the decision tool framework. These identified species provided a list of prioritized species which could be utilized as "simulation" species to test the decision tool to detect areas where identified priorities do not coincide with current practices.

Table 1 Common Invasive Plant Management Strategies

Management Strategies	Description
EDRR/Prevention	Any species of invasive plant not known to be present in Alaska but has the potential to live in Alaskan environments. If identified within the state, the management goal for these species is to eradicate all populations within a year of its discovery.

Eradication	Any species of invasive plant known to exist in Alaska where the management goal is to eradicate all populations through persistent action so reproduction of the species has ceased.
Containment	Any species of invasive plant known to exist in varying environments as separate populations throughout Alaska, whose eradication is unlikely. The management goal for these species is to control its dispersal from their current infestations to natural areas and un-infested environments.
Suppression	Any species of invasive plant that is distributed throughout populated areas in Alaska. The management goal for these species is to relieve pressure on resources of the public's interest, reduce aggressiveness of established populations, and decrease or eliminate anthropogenic influence on movement of the species to surrounding natural areas.
Watch	A species that is not designated a noxious weed, but presents evidence to cause damage in other states or biological conditions and may pose a threat to Alaskan agriculture or natural resources if escaped to or survives Alaskan environments. The management goal is to investigate the risk of this species and determine if and when it should be designated as a noxious weed.

General information was also collected from each respondent relating to their affiliation (state agency, federal agency, public, tribal organization, non-profit, or other) and their regional focus (northern, interior, south central, south west, south east, statewide, or other). This information will be summarized to identify the composition of respondents to identify gaps in stakeholder groups by both regional and organizational representation.

Analysis

The data collected in the surveys represents the participant's priorities for invasive plant management and was used as the basis for the development of the decision analysis tool.

The top factors that survey participants identified as "very important" in determining their invasive plant management strategies were developed into criteria for the decision framework while the identified species were ultimately used to assess alignment between identified priority factors and identified priority species. General information collected from respondents regarding organizational affiliation and regional association was used to analyze and characterize overall respondent composition.

Priority Factors

Data was collected from over 45 participants via Internet survey over a two-week period of time.

Table 2 Survey Response Data

Survey Numbers at a Glance			
Number of invitations sent*	Total number of surveys taken	Total number of completed surveys	Number of days survey was available
41	52	41	14

*41 direct invitations were sent, though a general invitation for participation was made available via out website which accounts for the higher number of surveys taken than invitations sent.

Participants were asked to rate the importance of given factors in determining current invasive plant management strategies as Very Important, Important, Slightly Important, and Not Applicable. This data was analyzed for the top trending priorities as identified by respondents. Initial analysis focused on

identifying factors with greater than 50% of respondents ranking as "very important" or "important," however, further refinement was necessary to identify the this was not a fine enough filter as all factors fell into this category. In order to further refine the analysis only those factors with greater than 50% of respondents rating as "very important" were selected (Table 3).

Table 3 Factors Identified by more than 50% of Respondents as 'Very Important'

Question		Very Important	Important	Not Important	Response Count	% Ranked as Very Important
1	A species distribution within Alaska	28	9	2	47	**60%**
5	Economic loss from a species	25	16	2	47	**53%**
8	A species impact (potential or realized) to terrestrial resources	24	15	2	47	**51%**
9	A species impact (potential or realized) to aquatic resources	31	9	2	47	**66%**
10	A species impact (potential or realized) to terrestrial wildland resources	25	12	1	46	**54%**
11	A species treatment difficulty	24	12	1	47	**51%**
13	A species potential spread by humans	24	14	1	47	**51%**
16	Availability of funding	31	11	1	48	**65%**

These factors were then refined into a series of questions, or criteria, that could be applied to evaluate each species, individually. Due to their similarity, factors 5, 8, 9, and 10 could be addressed with the same criteria and were therefore incorporated into a single criterion. The criteria were then organized into a progressively refining framework so species, as they are evaluated, would be funneled into one of the common management goal characterizations based on whether they met the criteria.

Additionally, the availability of funding, though highly rated as a critical factor for 65% of respondents, was eliminated as a decision criterion for a number of reasons. In discussion with key SME and stakeholders, it was decided that this model would focus on biological capacity for impact. Also, the availability of funding is specific to individual organizations and can fluctuate based on organizational factors. It would be impractical to try to factor this in for a tool that will address invasive plant management at a statewide level. See recommendations for further research for more on this.

Table 4 Respondent identified factors with greater than 50% of respondents rating as "very important"

Factors		Criteria
1	A species distribution within Alaska	A species distribution within Alaska
5	Economic loss from a species	Documented significant impact from a species presence (ecological or economic)
8	A species impact (potential or realized) to terrestrial resources	
9	A species impact (potential or realized) to aquatic resources	

10	A species impact (potential or realized) to terrestrial wildland resources	
11	A species treatment difficulty	Existence of effective eradication measures
13	A species potential spread by humans	Significant potential for human dispersal beyond populated areas
16	Availability of funding	Disregard

Priority Species

Respondents were also asked to identify specific invasive plant species that they would be categorized based on given management goals. The management goals represent common invasive plant management strategies: prevention, eradication, control, and containment. From these responses, the top 5 most frequently identified species characterized by at least 5% of respondents in each management category were compiled. These species were used to test the developed decision analysis tool for overall alignment between identified priority factors and identified priority species.

Table 5 Survey Respondent Priority Species Identified by Management Goal

Prevention/EDRR	Eradication	Control
Eurasian watermilfoil	Elodea	White sweetclover
Leafy Spurge	Canada thistle	Bird Vetch
Hydrilla	Purple Loosestrife	Orange Hawkweed
Kudzu	Giant Hogweed	Reed canarygrass
Spartina	Orange Hawkweed	Canada thistle
	Knotweeds	

Stakeholder Composition

Respondent composition was analyzed according to organizational affiliation (state agency, federal agency, public, tribal organization, or non-profit) and their regional focus (northern, interior, south central, south west, south east, statewide, or other). A total of 52 surveys were initiated by respondents and 41 were fully completed.

All 52 respondents answered this question with 50% identifying as either state (31%) or federal (19%) agencies while the other 50% was comprised of public (25%), nonprofit (21%), or tribal (4%) organizations or individuals. The largest proportion of respondents identified as State Agency representatives while Tribal entities represented the smallest grouping.

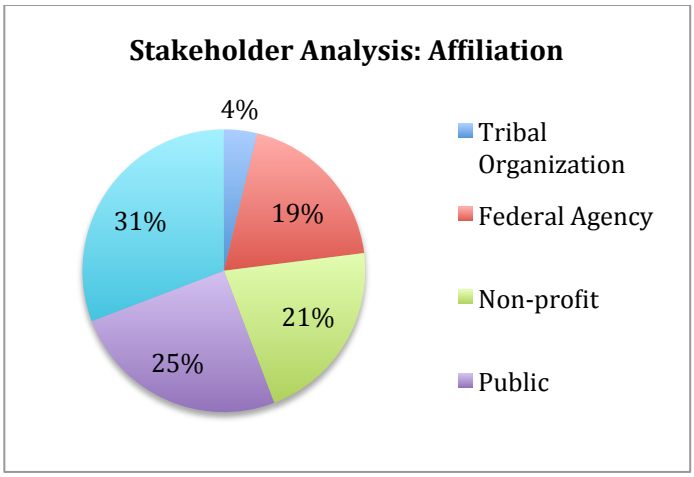

Figure 2 Stakeholder Affiliation

Additionally, an option for "other" was available, but not required, for respondents to further qualify their initial affiliation. Eight (8) respondents offered qualifying answers (see table).

Table 6 Survey Respondents Qualifying Affiliation Comments

Initial Response	Qualification
State Agency	SWCD
Public	University
Public	Landowner
Non-profit	SWCD
Non-profit	Contractor
Non-profit	Quasi-state

The question relating to regional association asked respondents to identify which part of Alaska best described where they, as an individual or organization, focused their invasive plant management efforts. The top three reporting regions were Southcentral, Interior, and Statewide, each with over 20% of the total respondents.

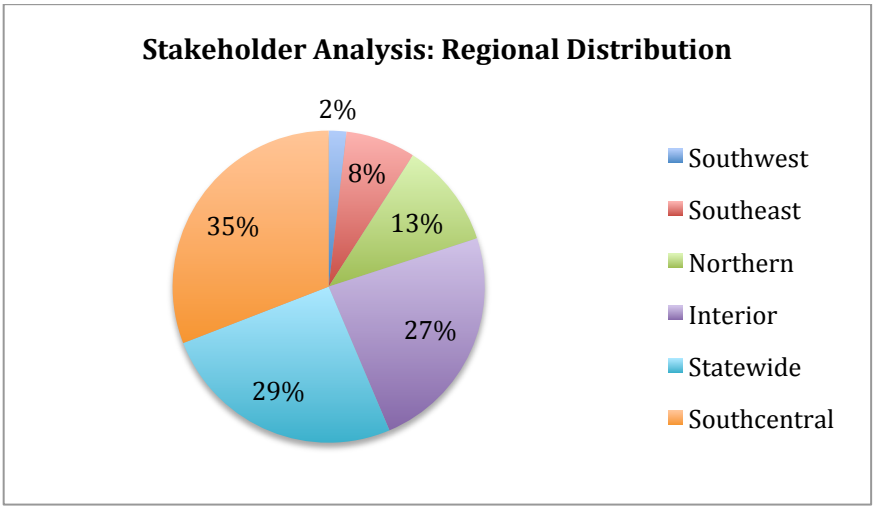

Figure 3 Regional Distribution of survey respondents

To get a better understanding of how these numbers reflect the overall state population distribution, the proportion of respondents from each region of the state were compared to the respective regions 2013 Department of Labor and workforce Development population estimates estimated population figures. This comparison helps answer the question: Does the stakeholder group accurately reflect the overall population in Alaska (Figure 4).

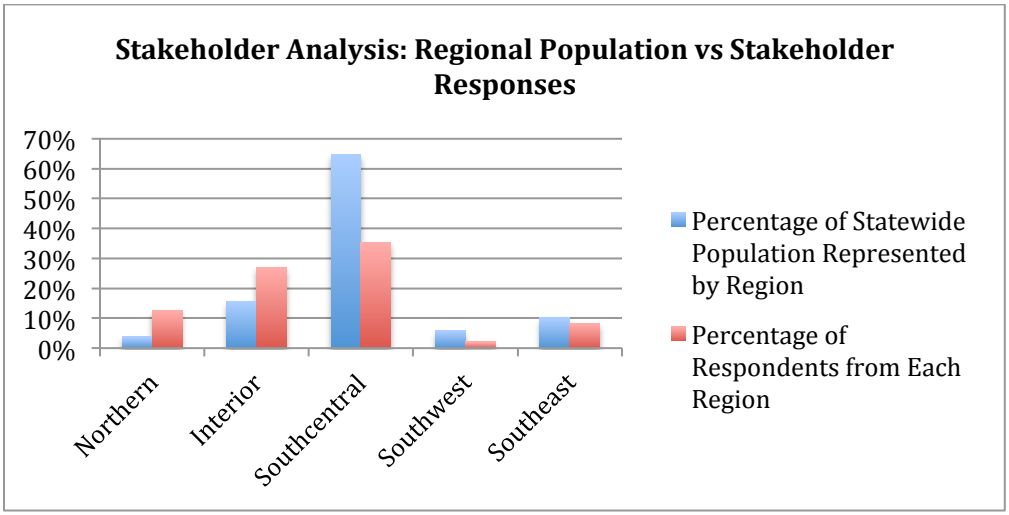

Figure 4 Respondent Analysis: Regional Population vs Stakeholder Responses

Results

Decision Framework

From the literature review, a simplified multi-criteria decision analysis framework was developed as the basis of the decision support tool. This framework includes a process diagram which depicts a series of sequential decision points, each leading to additional criteria, and, ultimately, a categorization into a management strategy. These strategies, outlined in Table 1, represent the commonly grouped management goals as discussed previously. Using the criteria developed from the survey data (Fig 4), the decision framework was populated by linking the criteria in a logical sequence that allowed a species to be narrowed into the given management categories.

Multiple iterations of this framework were drafted and reviewed by SME for accuracy and appropriate representation of the identified priorities. The species identified by survey respondents as priorities for management (Table 5) were test-cases to ensure overall alignment between identified priority factors and identified priority species.

Protocol and Documentation

A worksheet was created to accompany this framework as a step-by-step protocol guiding the evaluation of a species through each decision criteria. This evaluation worksheet includes an entry for each criteria with an explanation of how the criteria is to be evaluated with thresholds, critical factors, and examples of applicability to aid in the decision process. Following each criteria explanation, there is an area to document the decision, the rationale for that decision, and any relevant technical or literature references.

Finally, the end results of the evaluation and any relevant notes will be detailed in a summary document that will serve as the coversheet for the evaluation process documents. All of these documents together- the completed summary coversheet and the evaluation worksheet with decisions and supporting literature documented-will serve as an archival reference for the management decisions and will be made available to stakeholders to ensure that a decision processes are transparent.

Throughout the development of the tool and the subsequent discussions with stakeholders and SME, the idea was suggested, and subsequently adopted, that a tool like this would be best utilized by a panel of subject matter experts in conference. This process will provide an opportunity for subjective discourse allowing creativity, discussion of alternative solutions, and other critical elements that data and numbers cannot account for. To this end, each expert will independently evaluate a given species and then the panel will come together to discuss the various data and findings from each with the expectation that a species will be fully evaluated and the ultimate decision will be documented in the final summary worksheet. By implementing this tool within the context of subjective discourse, there will inevitably be differences of opinion, however the strength of this tool will be in providing a process and framework through which those differences can be debated, documented, and made available for future reference should a species characteristics evolve enough to warrant reevaluation.

Implementation

This tool will be implemented through a series of work-sessions where an SME team will evaluate a set list of invasive plant species. Prior to the work-session, the SME evaluators will be briefed on the tool, and the list of species will be provided. This will give each evaluator an opportunity to research and work through the tool on their own. After an appropriate amount of time (1-2 weeks depending on the number of species), the SME team will meet for the work-session to discuss and decide on the final evaluation.

Stakeholder Analysis

The stakeholder analysis enabled the project team to evaluate the composition of the stakeholder pool, and assess stakeholder populations that are underrepresented. This information will be used to reach out to groups such as Tribal Organizations who represented less than 2% of total respondents, and regions such as Southcentral, which exhibited a strong disparity between proportional population and stakeholders involved.

Conclusions

This paper describes the process of developing a methodology for prioritizing invasive plant management in Alaska focusing on three key objectives. The first objective was to review the decision analysis tools and how they are utilized to assist policy-makers with complex decisions involving competing goals. This research indicated that by utilizing a framework of decision criteria, a process can be developed that is defined, consistent, and objectively applied. This research also confirmed that a decision analysis process could incorporate stakeholder values and beliefs into the creation of the methodology which supports positive relationships between critical stakeholders and eventual policy decisions.

The second objective was to engage stakeholders in the process to ensure that the final methodology reflected their priorities. Subject matter experts were engaged using a Delphi survey technique to collect

information on current priorities and tolerances for invasive plants. The survey data was analyzed for the top trending stakeholder priorities and four (4) key decision criteria were developed from this analysis. The final objective for this project was to combine the information collected in the literature review and the stakeholder surveys into a complete decision analysis tool. The resulting tool is a complete methodology made up of a criteria-based framework and a step-by-step process for evaluating invasive plant management decisions on an individual species level. The output from this process will be a decision document that characterizes each evaluated species priority based on common management goals. Recognizing that subjectivity plays an important role and realistically cannot and should not be removed completely from the decision process, the protocol for employing this methodology will adopt a focus-group review of the decision document that will allow for discussion of alternative solutions and a final, high-level approval of the prioritization decision.

This methodology will address the complex and growing invasive plant management issues facing Alaska by providing a stakeholder driven framework through which invasive plant management decision processes can be more objective, transparent, and consistent.

Recommendations for Further Research

Due to an identified risk occurring, the additional Delphi reviews of the product did not occur and were removed from the scope of this project per the planned risk response. This process was documented in the Change Management Plan and log. Further work will need to be done to test the product and document any refinements per stakeholder input at this time. This is planned for coming weeks.

Numerical weight vs Categorization

Develop more fully into an Analytical Hierarchy Process (AHP), which is a form of a multi-criteria decision-making that involves a similar structure of objectives, criteria, sub criteria, and alternatives. The data is derived through a set of pairwise comparisons, which results in a numerical weight or priority derived for each element of the hierarchy, allowing diverse and often incommensurable elements to be compared, instead of the simpler categorization of the current model.

Consideration for Funding

Availability of funding was identified as a critical factor for many of the survey respondents, though it was not included as a criteria for the final tool because it did not align with the rest of the identified factors as biological factors and because it independently fluctuates depending on the given year and organization/agency. To fully evaluate a species potential for management, it is recommended that a budget worksheet be developed for cost for treatment and current availability of funding. This would be most appropriately done as a process independent of the initial evaluation, and with an individual entity in mind.

Acknowledgments

I want to thank everyone who contributed to this project through their subject matter expertise, organizational support, or encouragement. Thanks to my organizational support for many brainstorming sessions and the schedule flexibility to work full time and finish this coursework.

A special thanks goes to my advisory committee, LuAnn Piccard, Roger Hull, and Gino Graziano who offered direction and many great ideas throughout the development and execution of this project. You challenged me to go further with my initial ideas and you gave me lots of ideas for the future.

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Appendices

An Invasive Plant Management Decision Tool For Alaska

Introduction

The control of invasive, non-native plants is of increasing concern in ecosystem management as invasive plant species are found to be threatening natural resources through the disruption of biodiversity, habitat structure, and ecosystem processes across the world (Lodge et al., 2006). State Government leadership in invasive plant management policy is required to ensure efforts are coordinated and cost effective (Hulme, 2006). As resources for managing invasive plants are limited, the need to evaluate and rank non-native species is a primary concern before expensive management is attempted so that the most threatening species may be addressed first. The purpose of this tool is to assist the Division of Agriculture and stakeholders with the prioritization of invasive plant management in Alaska.

The term "invasive" is often confused with other similar, but critically different terms. In the context of this tool, invasive is defined as species that is not native to a given geographic area, that is or has the potential to harm the environment, economy, or human health (Clinton, 1999). This definition highlights the key distinction between something that is non-native and something that is invasive: the potential to do harm. In terms of plants, this harm typically results from disruptive or aggressive growth, which impacts the environment and the economy more than human health, but there are examples of human health impacting plant species.

This tool was developed based on subject matter expert (SME) and other key stakeholder input on current invasive plant management strategies and priorities. The tool is designed to assist in evaluating and categorizing an invasive plant species based on a consistent set of decision criteria. The output of this tool is a prioritized list of evaluated species that is categorized based on management objectives.

The tool is comprised of two main elements: a decision tree and an evaluation worksheet. The evaluation worksheet includes an entry for each criteria with an explanation of how the criteria is to be evaluated with thresholds, critical factors, and examples of applicability to aid in the decision process. Following each criteria explanation, there is an area to document the decision, the rationale for that decision, and any relevant technical or literature references. Finally, the end results of the evaluation and any relevant notes will be detailed in a summary document that will serve as the coversheet for the evaluation process documents or worksheets. All of these documents together-the completed summary coversheet and the evaluation worksheet with decisions and supporting literature documented-will serve as an archival reference for the management decisions and will be made available to stakeholders to ensure that a decision processes are transparent.

The evaluation of each species is designed to be a collaborative effort. A panel of subject matter experts will evaluate each species individually and the enclosed worksheet will serve as the justification for the eventual decision and the documentation for the literature and data used to support this decision.

Management Priorities

Prevent: Any species of invasive plant not known to be present in Alaska but has the potential to live in Alaskan environments. If identified within the state, the management goal for these species is to eradicate all populations within a year of its discovery.

Eradication is considered successful when no plants are recovered from the initial area for three consecutive years (Rejmanek and Pitcairn 2002). It is widely recognized that prevention is the most cost-effective stage in which to managed invasive plants, though it is possible only at an early phase when infestations are not widespread (Skinner, Smith, & Rice, 2009). Once a highly invasive species is established, it is difficult to prevent rapid spread. Public education is the primary prevention tool and efforts typically focus on disseminating information to the public about the invasive plant risk and best management practices relating to that species. Prevention may also include industry codes of conduct or more directed regulatory action such as mandatory inspections or quarantines.

Eradicate: Eradicate: Any species of invasive plant known to exist in Alaska where the management goal is to eradicate all populations through persistent action so reproduction of the species has ceased.

Following initial establishment there is typically a lag phase before an invasive plant begins to rapidly increase its geographic range. Attempting eradication, or complete removal of all populations, is the priority during this phase, though there is a relatively small window of time where it may be feasible. Once a species is well established, eradication is costly and sometimes impossible. Management tools during this stage revolve around the concept of "Early Detection and Rapid Response (EDRR) programs" which focuses on detecting the invasive plants at low levels, before they are widespread, when complete removal is possible. These efforts often include the promotion of high priority species reporting through citizen science groups or strategic monitoring of vulnerable habitat to identify opportunities for eradication.

Control: Any species of invasive plant known to exist in varying environments as separate populations throughout Alaska, whose eradication is unlikely. The management goal for these species is to control its dispersal from their current infestations to natural areas and un-infested environments.

When the invasion process continues beyond initial establishment, it is increasingly unlikely that an eradication effort will be successful and management activities shift to a control focus. The goal of controlling an invasive plant species is to prevent the spread into yet un-infested areas, which can be achieved by preventing reproduction and dispersal, treating the perimeter of a large infestation, and eliminating small satellite infestations (Zimmerman et al., 2011).

Suppress: Any species of invasive plant that is distributed throughout populated areas in Alaska. The management goal for these species is to relieve pressure on resources of the public's interest, reduce aggressiveness of established populations, and decrease or eliminate anthropogenic influence on movement of the species to surrounding natural areas.

At the final stages of the invasion process, the geographic breadth of an invasion is so extensive that effective control is unlikely without massive resource inputs (Skinner et al., 2009). The management goal is to suppress the species focusing primarily on the highest priority sites. Many of the same management efforts described for "control" are employed for suppression, however the emphasis for suppression is to reduce aggressiveness of established populations and limit anthropogenic movement.

Watch: A species that is not designated a noxious weed, but presents evidence to cause damage in other states or biological conditions and may pose a threat to Alaskan agriculture or natural resources if escaped to or survives Alaskan environments. The management goal is to investigate the risk of this species and determine if/when it should be designated as a noxious weed.

Decision Analysis Criteria

Drawing from other invasive plant ranking systems and tools (Carlson 2008 and Zimmerman et al. 2011) and stakeholder input on current invasive plant management strategies and priorities, the following decision criteria were developed for this tool.

Impact from Species

The first step in determining if a species should be prioritized for management in Alaska is determining if the invasive plant is or has the potential to cause significant ecological impact or harm to human economies or health. The impact of a species is evaluated based on the severity and current/potential scope of impact as demonstrated by existing Alaska Natural Heritage Program's Invasiveness Ranking System for Non-Native Plants (Carlson 2008) or relevant literature from ecologically similar regions with a clear pathway to Alaska.

Distribution of a Species

The distribution of an invasive plant needs to be put in context of political, jurisdictional, or ecological boundaries to identify the appropriate management strategy. Therefore this criteria has multiple thresholds.

1. **Presence in Alaska:** This is an important distinction to make to identify high priority species for prevention efforts. If a species has not been identified within Alaskan boundaries and has a documented high potential for impact, then management efforts should be directed at prevention.
2. **Limited/Widespread Distribution in Alaska:** The size and number of infestations increase control cost substantially, influencing the probability of successfully meeting control objectives (Rejmanek and Pitcairn 2002). Thresholds are set based on a limited, moderate, and widespread distribution for categorization into appropriate and feasible management strategies.
    a. **Limited Distribution:** Known to exist in less than 20 independent populations and less than 10 acres across Alaska.
    b. **Moderate/Widespread Distribution:** Known to exist in varying populations throughout Alaska, greater than 20 independent populations or 10 acres

Existence of Effective Control Measures

The availability of effective management strategies must be considered to ensure the appropriate application of those tools. A feasible strategy must exist to attempt that type of management.

1. **Eradication**: A feasible eradication project must have a management method that can effectively kill the plant and eliminate the seed bank within a reasonable timeframe.
2. **Control**: Control strategies must be capable of preventing the spread into un-infested areas through treating the perimeter of a large infestation, and eliminating small satellite infestations

Potential for Human Dispersal

If an invasive plant is widespread and exhibits an ability to utilize human pathways for distribution it becomes increasingly difficult to effectively control the spread. Mechanisms must be in place to effectively limit human dispersal for any management effort to be effective.

Implementation of the Tool

This tool will be implemented through a series of work-sessions where an SME team will evaluate a set list of invasive plant species. Prior to the work-session, the SME evaluators will be briefed on the tool, and the list of species will be provided. This will give each evaluator an opportunity to research and work through the tool on their own. After an appropriate amount of time (1-2 weeks depending on the number of species), the SME team will meet for the work-session to discuss and decide on the final evaluation.

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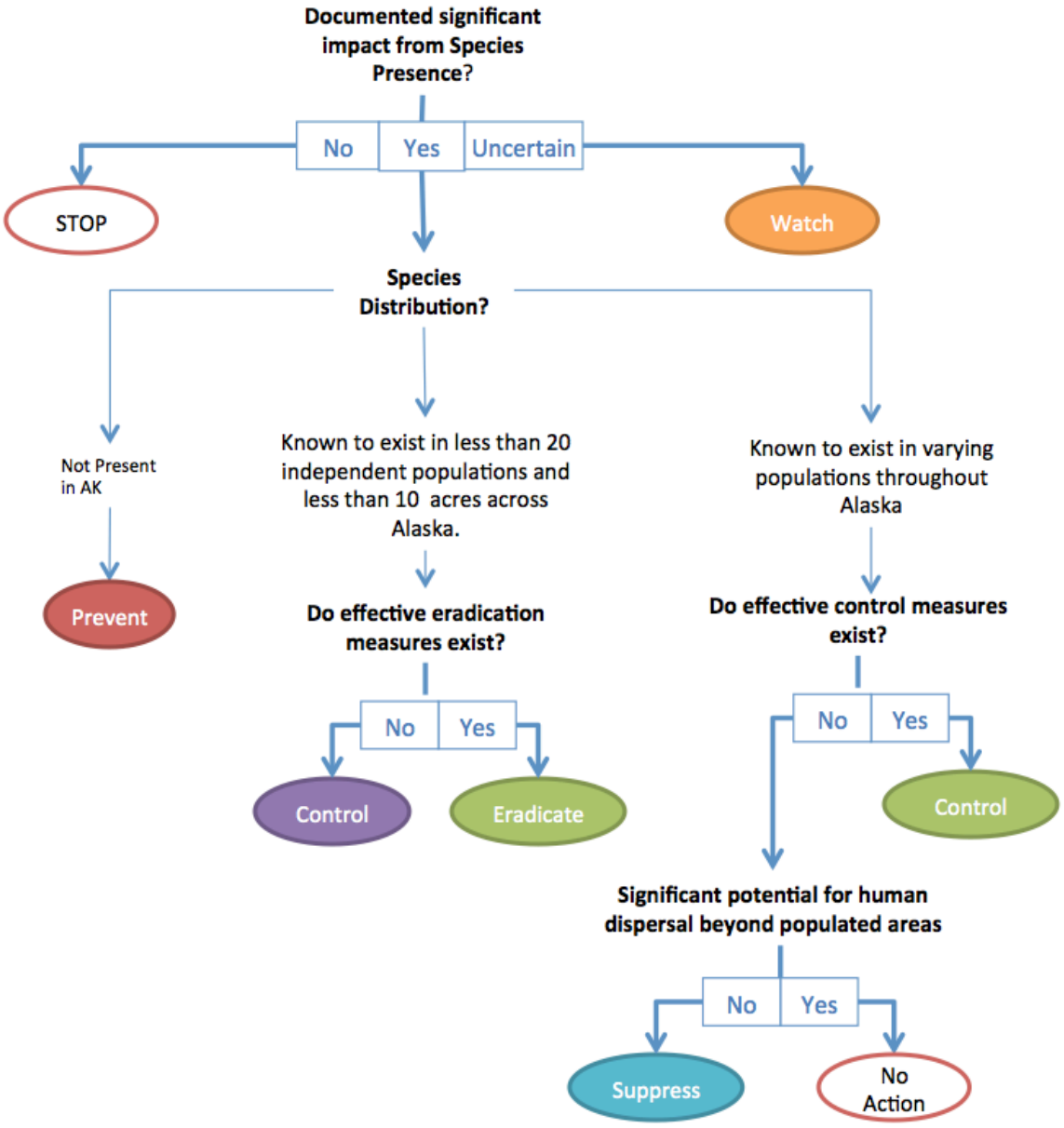
An Invasive Plant Management Decision Tool For Alaska

Use with attached form



Summary Sheet

General Information

Scientific Name:	
Common Name:	
Assessors:	
Date:	

Decision Tool Results

☐	No Action	☐	Prevent	☐	Control
☐	Watch	☐	Eradicate	☐	Suppress

General Notes

1 Impact: Does the species have a documented ecological or economical impact as demonstrated by existing Alaska Natural Heritage Program's Invasiveness Ranking System for Non-Native Plants (Carlson 2008) or relevant literature from ecologically similar regions with a clear pathway to Alaska.

☐ If "yes" go to 2

☐ If "no" **STOP**

Documentation
Identify type of impact :
Rational:
Sources:

2 Distribution: What is the species distribution in Alaska? A species with limited distribution is known to exist in less than 20 independent populations and less than 10 acres across Alaska. Moderate to widespread exists in varying populations throughout Alaska, greater than 20 independent populations or more than 10 acres.

☐ Has not been identified within Alaskan Boundaries. List as PREVENT

☐ Limited Distribution, go to 3

☐ Moderate to Widespread go to 4

Documentation
Identify known locations and estimated size:
Rational:
Sources:

3 Effective Eradication Measures: There must be feasible eradication strategies that can effectively kill the plant and eliminate the seed bank within a reasonable timeframe.

☐ If "yes" list as ERADICATE

☐ If "no" list as CONTROL

Documentation
Identify eradication measures:
Rational:
Sources:

4 Effective Control: There are control strategies capable of preventing the spread into un-infested areas through treating the perimeter of a large infestation, and eliminating small satellite infestations

☐ If "yes" list as CONTROL

☐ If "no" go to 5

Documentation
Identify control options:
Rational:
Sources:

5 Potential for Human Dispersal: Mechanisms are in place to effectively limit human dispersal. Mechanisms must be widely accepted and in practice to be effective.

☐ If "yes" list as SUPPRESS

☐ If "no" take NO ACTION

Documentation
List current mechanisms in place and their demonstrated use:
Rational:
Sources:

Other Notes & References:

Invasive Plant Management Priorities

Introduction

This survey is designed to gather existing land management priorities to inform the development of a decision analysis tool for the management of invasive plants in Alaska.

Your participation in this study is confidential and voluntary. Participant responses will provide insight into current land management priorities for invasive plants with no direct risks or benefits provided to participants beyond professional collaboration. If you do not wish to participate, or would like to end your participation, you may quit at any time.

If you have any questions at any point, please feel free to contact Brianne Blackburn by email at Brianne.Blackburn@alaska.gov or by phone at (907) 745-8785.

This survey should take approximately 10-20 minutes to complete.

Invasive Plant Management Priorities

General Information

*1. What is your affiliation?

- [ ] State Agency
- [ ] Federal Agency
- [ ] Public
- [ ] Tribal Organization
- [ ] Non-profit

Other (please specify)

2. What region of the state best describes where your invasive plant management efforts are focused?

- [ ] Northern
- [ ] Interior
- [ ] Southcentral
- [ ] Southwest
- [ ] Southeast
- [ ] Statewide

Other (please specify)

Invasive Plant Management Priorities

Prioritization

The following questions relate to the factors you or your organization uses to determine invasive plant management priorities.

3. Please rate how important each of the following factors are in determining your current invasive plant management strategies.

	Very Important	Important	Slightly Important	Not Important	N/A
A species distribution within Alaska	☐	☐	☐	☐	☐
A species presence in adjacent states or provinces	☐	☐	☐	☐	☐
A species impact in ecologically similar regions	☐	☐	☐	☐	☐
Economic benefits from a species	☐	☐	☐	☐	☐
Economic loss from a species	☐	☐	☐	☐	☐
A species invasiveness ranking (The Alaska Natural Heritage Program Index)	☐	☐	☐	☐	☐
A species impact (potential or realized) to agriculture	☐	☐	☐	☐	☐
A species impact (potential or realized) to terrestrial resources	☐	☐	☐	☐	☐
A species impact (potential or realized) to aquatic resources	☐	☐	☐	☐	☐
A species impact (potential or realized) to terrestrial wildland resources	☐	☐	☐	☐	☐
A species treatment difficulty	☐	☐	☐	☐	☐
A species potential to naturally disperse	☐	☐	☐	☐	☐
A species potential spread by humans	☐	☐	☐	☐	☐
A species status as regulated or noxious in other states or provinces	☐	☐	☐	☐	☐
A species social or political support for management	☐	☐	☐	☐	☐
Availability of funding	☐	☐	☐	☐	☐

Other (please specify)

Invasive Plant Management Priorities

Invasive Plant Management Priorities

Prioritization

For each of the categories below, please list up to five (5) species that, to the best of your knowledge, fit the description given.

4. An invasive plant known to exist in Alaska whose management goal should be to eradicate the population.

1
2
3
4
5

5. An invasive plant not known to exist in Alaska whose management goal should be to eradicate the population upon detection.

1
2
3
4
5

6. An invasive plant known to exist in varying populations throughout Alaska whose eradication from infested areas is unlikely, and the management goal should be to prevent the spread of the species to un-infested areas.

1
2
3
4
5

Invasive Plant Management Priorities

Prioritization

7. How often should invasive plant prioritization be revisited to be representative of current land management issues?

- ◯ Every 6 months
- ◯ Every year
- ◯ Every 2 years
- ◯ Every 5 years
- ◯ As needed

Invasive Plant Management Priorities

Closing

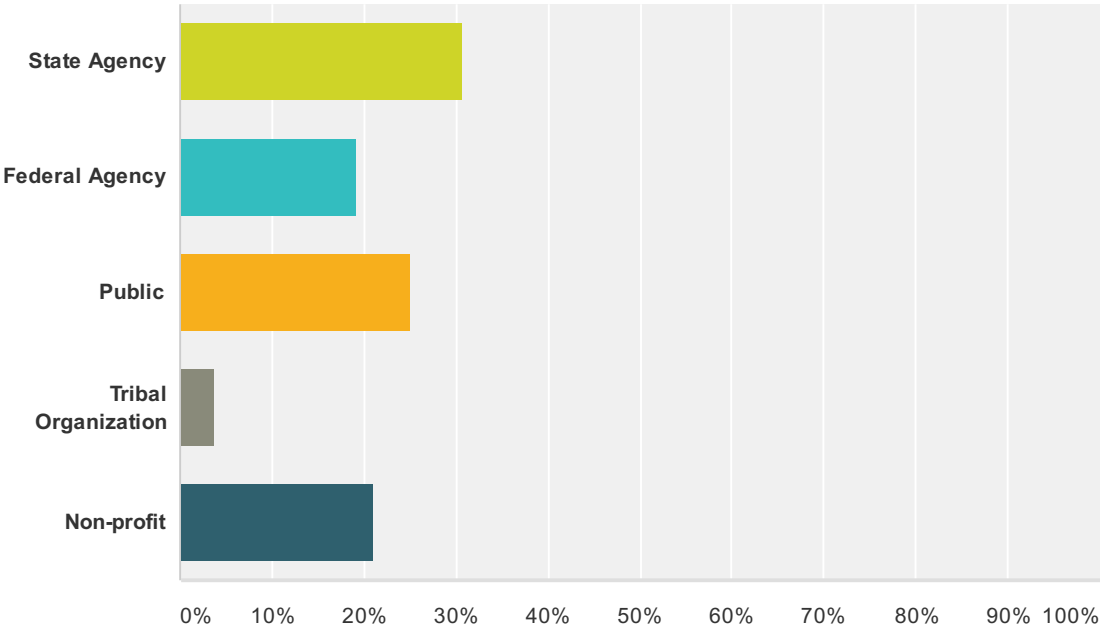
Thank you for your input. If you have any additional comments regarding the prioritization of invasive plant management in Alaska please use the comment field below or contact Brianne Blackburn by email at brianne.blackburn@alaska.gov or by phone at (907) 745-8785.

If you know of someone involved in invasive plant management in Alaska that would be interested in participating in this survey, please direct them to http://www.plants.alaska.gov/ to find a link to this survey.

8. Comments:

Q1 What is your affiliation?

Answered: 52 Skipped: 0

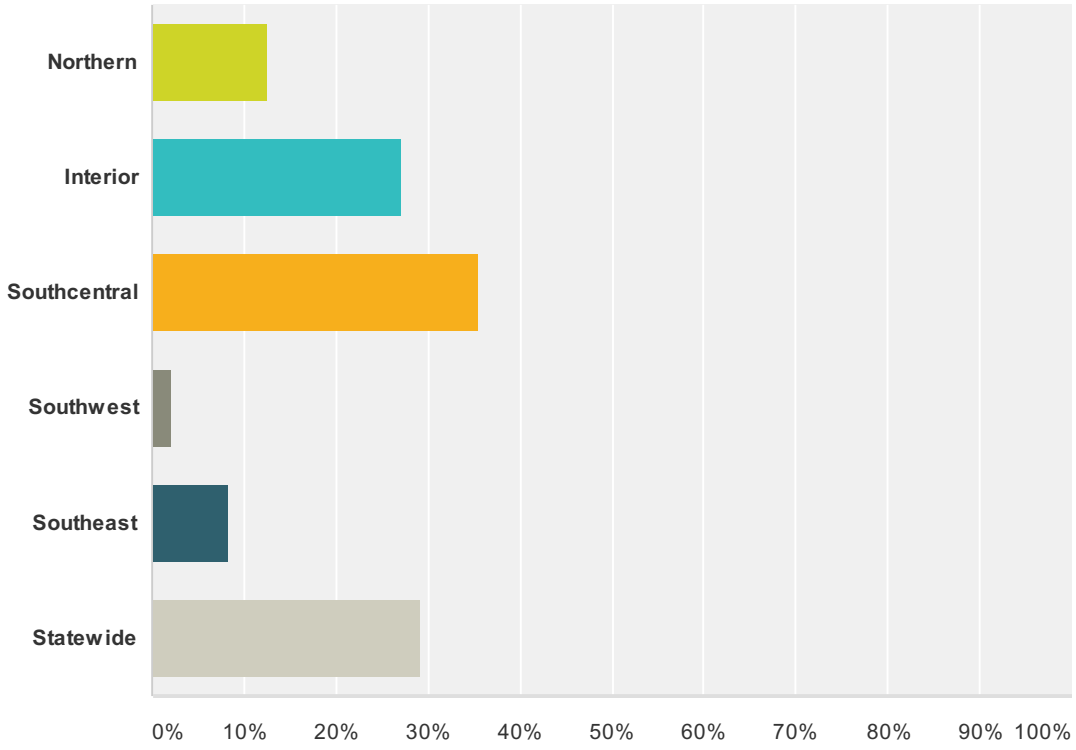


Answer Choices	Responses	
State Agency	**30.77%**	16
Federal Agency	**19.23%**	10
Public	**25.00%**	13
Tribal Organization	**3.85%**	2
Non-profit	**21.15%**	11
Total Respondents: 52		

#	Other (please specify)	Date
1	University	2/11/2014 2:31 PM
2	SWCD	2/11/2014 10:45 AM
3	SWCD	2/11/2014 10:29 AM
4	Contractor	2/11/2014 10:02 AM
5	University	2/7/2014 12:26 PM
6	SWCD	2/5/2014 11:53 AM
7	land owner	2/1/2014 8:44 PM
8	Quasi State	1/30/2014 10:17 AM

Q2 What region of the state best describes where your invasive plant management efforts are focused?

Answered: 48 Skipped: 4

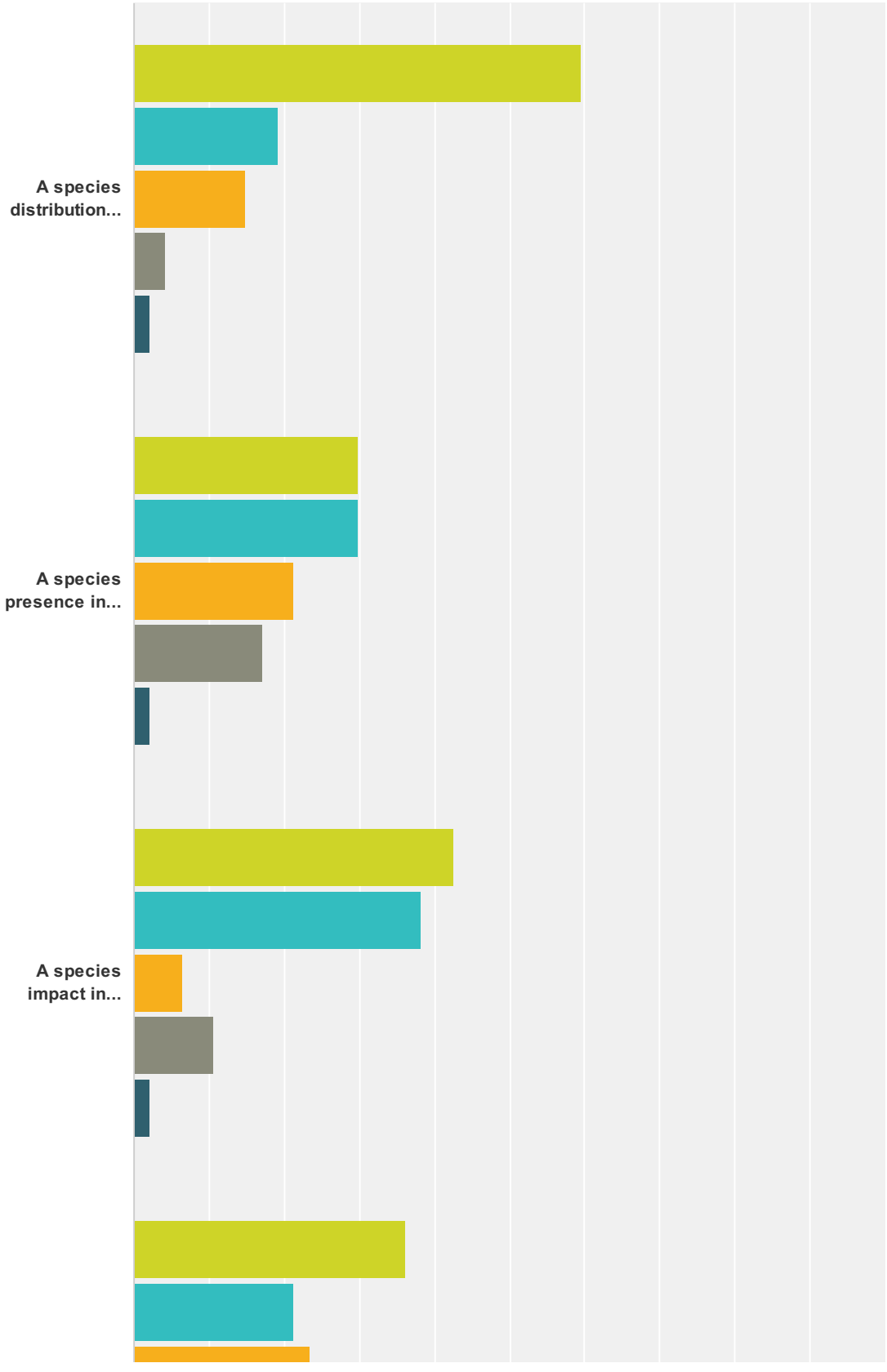


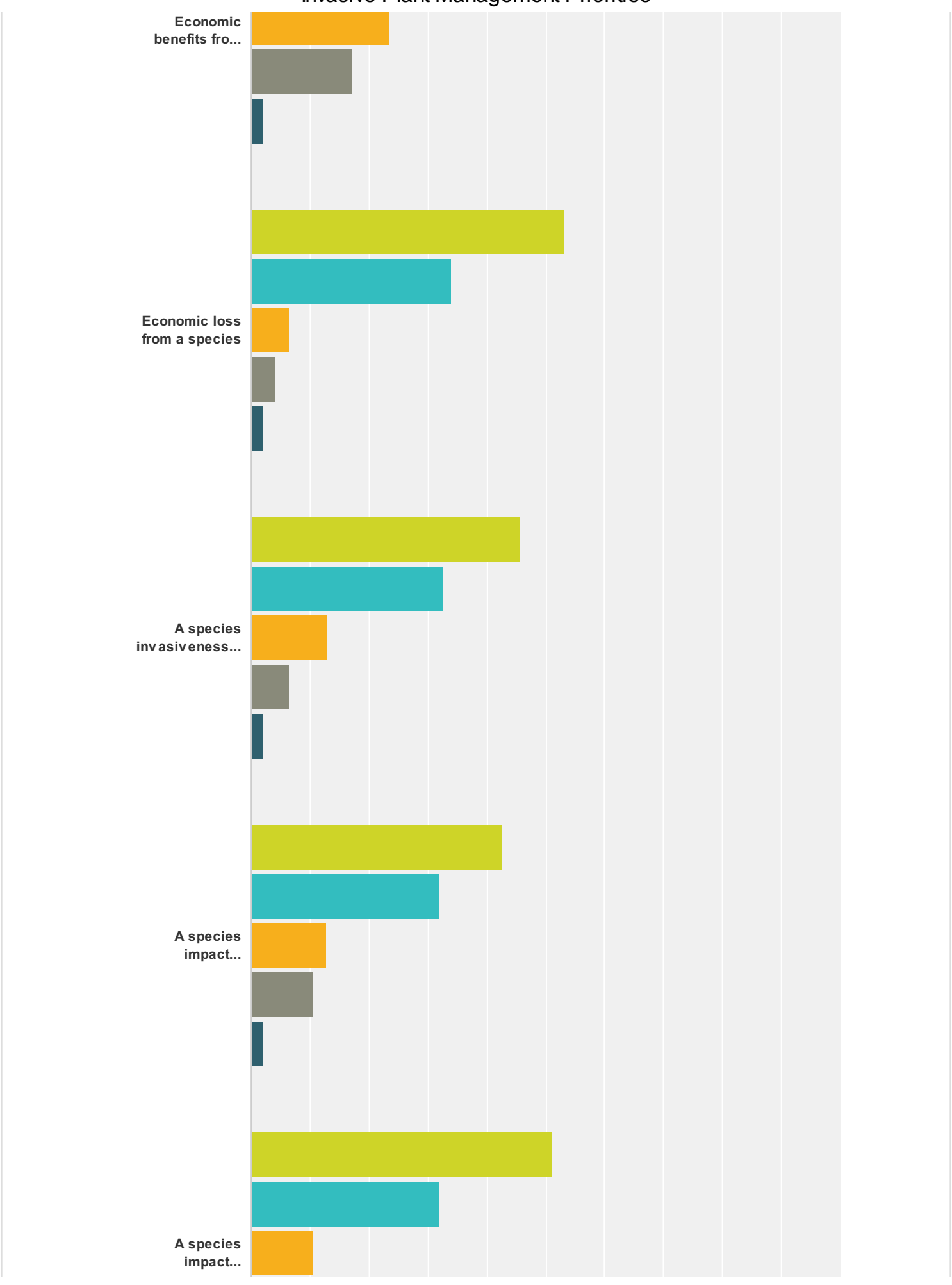
Answer Choices	Responses	
Northern	**12.50%**	6
Interior	**27.08%**	13
Southcentral	**35.42%**	17
Southwest	**2.08%**	1
Southeast	**8.33%**	4
Statewide	**29.17%**	14
Total Respondents: 48		

#	Other (please specify)	Date
1	northwest seward peninsula	1/31/2014 1:22 PM
2	Northwest	1/30/2014 8:34 AM

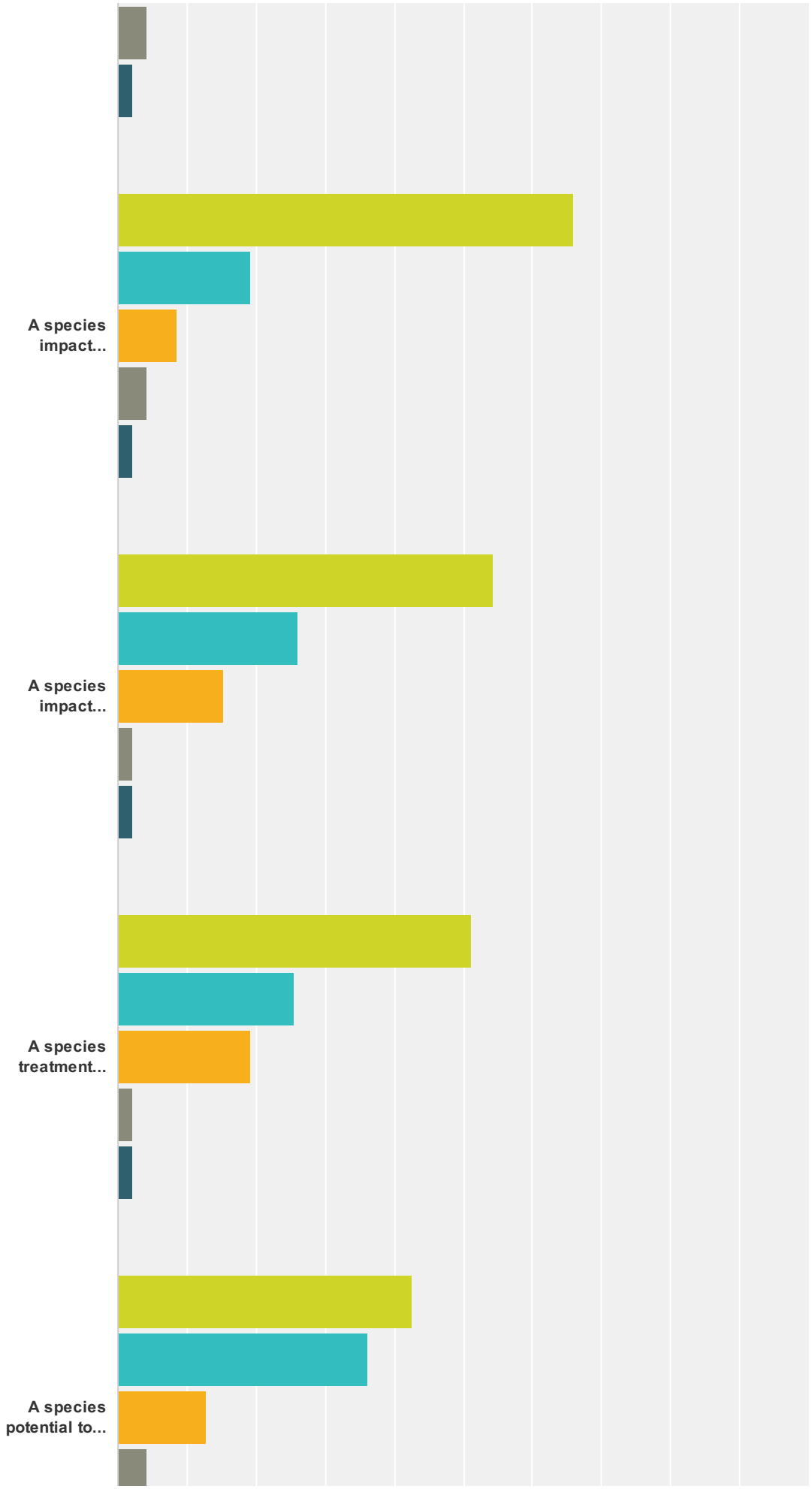
Q3 Please rate how important each of the following factors are in determining your current invasive plant management strategies.

Answered: 48 Skipped: 4

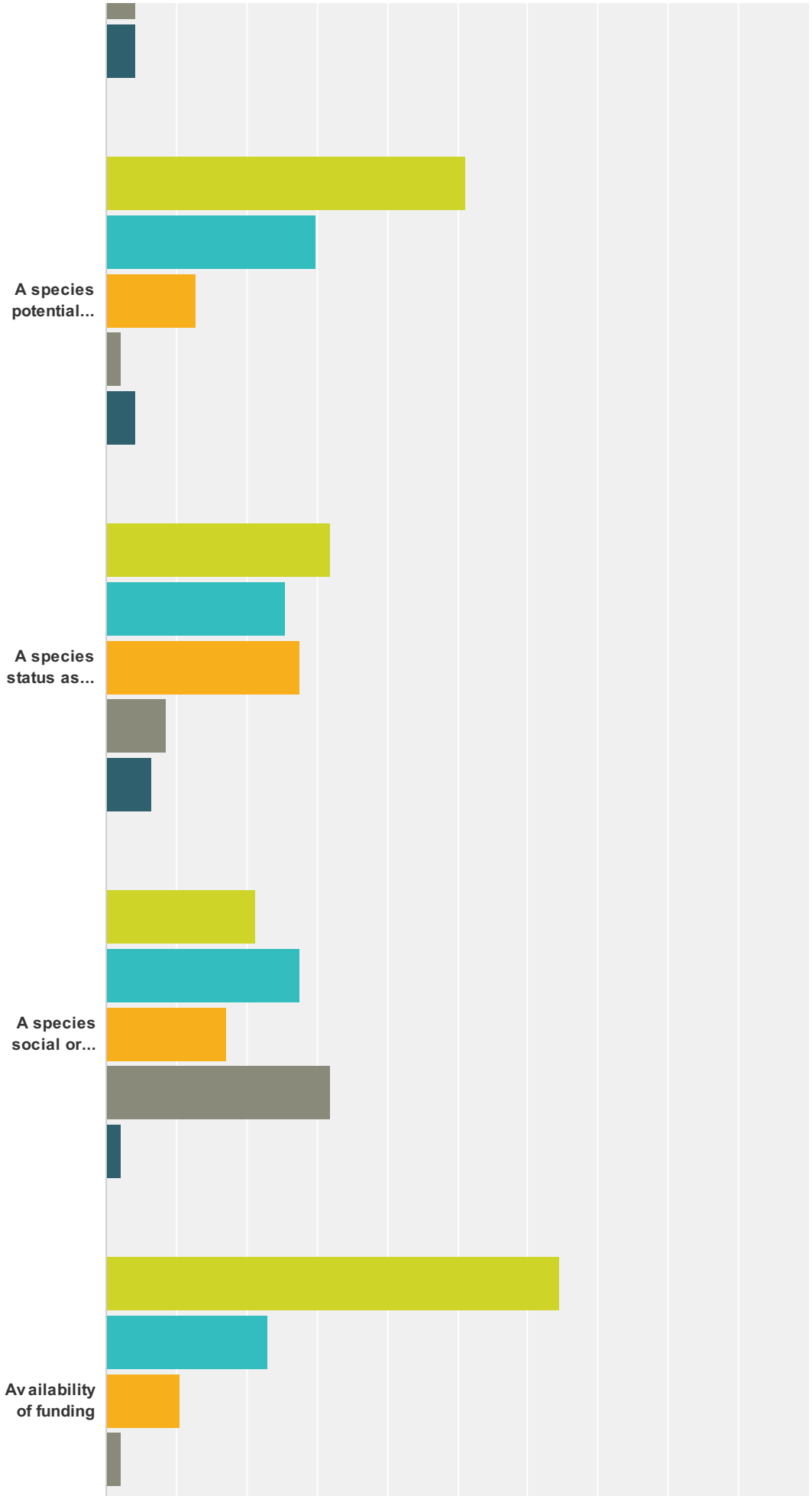



Invasive Plant Management Priorities
Economic benefits fro...
Economic loss from a species
A species invasiveness...
A species impact...
A species impact...

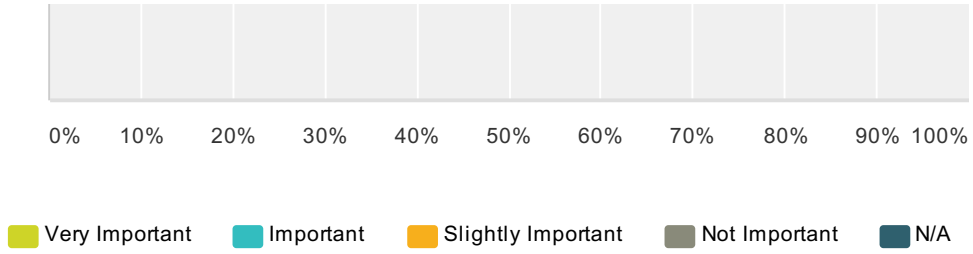
Invasive Plant Management Priorities



Invasive Plant Management Priorities



Invasive Plant Management Priorities



	Very Important	Important	Slightly Important	Not Important	N/A	Total Respondents
A species distribution within Alaska	**59.57%** 28	**19.15%** 9	**14.89%** 7	**4.26%** 2	**2.13%** 1	47
A species presence in adjacent states or provinces	**29.79%** 14	**29.79%** 14	**21.28%** 10	**17.02%** 8	**2.13%** 1	47
A species impact in ecologically similar regions	**42.55%** 20	**38.30%** 18	**6.38%** 3	**10.64%** 5	**2.13%** 1	47
Economic benefits from a species	**36.17%** 17	**21.28%** 10	**23.40%** 11	**17.02%** 8	**2.13%** 1	47
Economic loss from a species	**53.19%** 25	**34.04%** 16	**6.38%** 3	**4.26%** 2	**2.13%** 1	47
A species invasiveness ranking (The Alaska Natural Heritage Program Index)	**45.65%** 21	**32.61%** 15	**13.04%** 6	**6.52%** 3	**2.17%** 1	46
A species impact (potential or realized) to agriculture	**42.55%** 20	**31.91%** 15	**12.77%** 6	**10.64%** 5	**2.13%** 1	47
A species impact (potential or realized) to terrestrial resources	**51.06%** 24	**31.91%** 15	**10.64%** 5	**4.26%** 2	**2.13%** 1	47
A species impact (potential or realized) to aquatic resources	**65.96%** 31	**19.15%** 9	**8.51%** 4	**4.26%** 2	**2.13%** 1	47
A species impact (potential or realized) to terrestrial wildland resources	**54.35%** 25	**26.09%** 12	**15.22%** 7	**2.17%** 1	**2.17%** 1	46
A species treatment difficulty	**51.06%** 24	**25.53%** 12	**19.15%** 9	**2.13%** 1	**2.13%** 1	47
A species potential to naturally disperse	**42.55%** 20	**36.17%** 17	**12.77%** 6	**4.26%** 2	**4.26%** 2	47
A species potential spread by humans	**51.06%** 24	**29.79%** 14	**12.77%** 6	**2.13%** 1	**4.26%** 2	47
A species status as regulated or noxious in other states or provinces	**31.91%** 15	**25.53%** 12	**27.66%** 13	**8.51%** 4	**6.38%** 3	47
A species social or political support for management	**21.28%** 10	**27.66%** 13	**17.02%** 8	**31.91%** 15	**2.13%** 1	47
Availability of funding	**64.58%** 31	**22.92%** 11	**10.42%** 5	**2.08%** 1	**0.00%** 0	48

#	Other (please specify)	Date
1	Impact to aesthetic and recreaational resources.	2/11/2014 9:41 AM
2	whether we feel like this is within our domain and authority	2/5/2014 4:08 PM
3	upper management support in federal and state government for control activities and program interaction with other disciplines	1/31/2014 1:33 PM

4	Private property rights; chance for success; limited availability of funding; science based; length of presence; independent and non-conflict-of-interest verification of need/emergency	1/30/2014 12:05 AM

Q4 An invasive plant known to exist in Alaska whose management goal should be to eradicate the population.

Answered: 34 Skipped: 18

Answer Choices	Responses	
1	**97.06%**	33
2	**91.18%**	31
3	**82.35%**	28
4	**76.47%**	26
5	**61.76%**	21

#	1	Date
1	spotted knapweed	2/11/2014 5:27 PM
2	Japanese knotweed and associated knotweeds	2/11/2014 4:41 PM
3	Melilotus albus	2/11/2014 2:39 PM
4	Elodea	2/11/2014 1:05 PM
5	canada thistle	2/11/2014 11:15 AM
6	Elodea	2/11/2014 11:09 AM
7	Giant Hogweed	2/11/2014 10:37 AM
8	Elodea	2/11/2014 10:34 AM
9	Elodea	2/11/2014 9:44 AM
10	canada thistle	2/11/2014 9:16 AM
11	Elodea	2/11/2014 9:15 AM
12	Spotted knapweed	2/10/2014 11:24 AM
13	white sweet clover	2/6/2014 10:39 AM
14	japanese knotweed	2/6/2014 10:05 AM
15	perennial sow thistle	2/5/2014 4:14 PM
16	Elodea	2/5/2014 12:05 PM
17	perenial sow thistle	2/1/2014 8:55 PM
18	orange hawkweed	1/31/2014 1:59 PM
19	elodea	1/31/2014 12:13 PM
20	Canada Thistle	1/30/2014 3:00 PM
21	Canada Thistle	1/30/2014 1:44 PM
22	Japanese knotweed	1/30/2014 1:39 PM
23	Elodea	1/30/2014 12:43 PM
24	Sonchus arvensis	1/30/2014 12:43 PM
25	Spotted knapweed	1/30/2014 12:38 PM
26	Elodea canadensis	1/30/2014 11:04 AM

27	Elodea	1/30/2014 9:52 AM
28	Elodea	1/30/2014 8:44 AM
29	knotweed	1/30/2014 8:43 AM
30	Thistles	1/30/2014 12:22 AM
31	Orange Hawkweed (if even possible now)	1/30/2014 12:09 AM
32	Foxtail Barley	1/30/2014 12:01 AM
33	Elodea	1/29/2014 6:46 PM
#	**2**	**Date**
1	broadleaf pepperweed	2/11/2014 5:27 PM
2	Spotted knapweed	2/11/2014 4:41 PM
3	Vicia cracca	2/11/2014 2:39 PM
4	Spotted Knapweed	2/11/2014 1:05 PM
5	reed canarygrass	2/11/2014 11:15 AM
6	Spotted knapweed	2/11/2014 11:09 AM
7	Garlic Mustard	2/11/2014 10:37 AM
8	cheat grass	2/11/2014 9:16 AM
9	orange hawkweed	2/11/2014 9:15 AM
10	Garlic Mustard	2/10/2014 11:24 AM
11	bird vetch	2/6/2014 10:39 AM
12	purple loosestrife	2/6/2014 10:05 AM
13	elodea	2/5/2014 4:14 PM
14	Canada thistle	2/5/2014 12:05 PM
15	Canada thistle	2/1/2014 8:55 PM
16	spotted knapweed	1/31/2014 1:59 PM
17	orchard grass	1/31/2014 12:13 PM
18	Canary Reedgrass	1/30/2014 3:00 PM
19	Hogweed	1/30/2014 1:44 PM
20	Spotted knapweed	1/30/2014 1:39 PM
21	Spotted knapweed	1/30/2014 12:43 PM
22	Elodea spp.	1/30/2014 12:43 PM
23	Garlic mustard	1/30/2014 12:38 PM
24	Elodea	1/30/2014 12:15 PM
25	Cirsium arvense	1/30/2014 11:04 AM
26	Cirsium arvense (creeping thistle)	1/30/2014 9:52 AM
27	sweetclover	1/30/2014 8:44 AM
28	elodea	1/30/2014 8:43 AM
29	Thistles	1/30/2014 12:09 AM
30	Canada Thistle	1/30/2014 12:01 AM
31	Spotted Knapweed	1/29/2014 6:46 PM
#	**3**	**Date**

1	Elodea	2/11/2014 5:27 PM
2	garlic mustard	2/11/2014 4:41 PM
3	Linaria vulgaris	2/11/2014 2:39 PM
4	Russian Knapweed	2/11/2014 1:05 PM
5	elodea	2/11/2014 11:15 AM
6	Cheatgrass	2/11/2014 11:09 AM
7	Ornamental Jewellweed	2/11/2014 10:37 AM
8	Japanese knotweed	2/11/2014 9:15 AM
9	Scotchbroom	2/10/2014 11:24 AM
10	elodea	2/6/2014 10:39 AM
11	orange hawkweed	2/6/2014 10:05 AM
12	bird cherry	2/5/2014 4:14 PM
13	Purple loosestrife	2/5/2014 12:05 PM
14	purple loosestrife	1/31/2014 1:59 PM
15	siberian wild rye	1/31/2014 12:13 PM
16	Purple Loosestrife	1/30/2014 3:00 PM
17	Splitlip Hempnettle	1/30/2014 1:44 PM
18	Orange hawkweed	1/30/2014 1:39 PM
19	Garlic Mustard	1/30/2014 12:43 PM
20	Polygonum cuspidatum	1/30/2014 12:43 PM
21	Giant hogweed	1/30/2014 12:38 PM
22	Thistles	1/30/2014 12:15 PM
23	Phalaris arundinaceae	1/30/2014 11:04 AM
24	Vicia cracca	1/30/2014 9:52 AM
25	purple loosestrife	1/30/2014 8:43 AM
26	Ragwart	1/30/2014 12:09 AM
27	Orange/Yellow Hawkweed	1/30/2014 12:01 AM
28	Bird Cherry	1/29/2014 6:46 PM
#	**4**	**Date**
1	knotweed complex	2/11/2014 5:27 PM
2	purple loosestrife	2/11/2014 4:41 PM
3	Caragana aborescens	2/11/2014 2:39 PM
4	Canada Thistle	2/11/2014 1:05 PM
5	clover	2/11/2014 11:15 AM
6	Russian knapweed	2/11/2014 11:09 AM
7	Spotted Knapweed	2/11/2014 10:37 AM
8	creeping buttercup	2/11/2014 9:15 AM
9	Purple loosestrife	2/10/2014 11:24 AM
10	birds foot trefoil	2/6/2014 10:39 AM
11	common tansy	2/6/2014 10:05 AM

12	purple loosestrife	2/5/2014 4:14 PM
13	Spotted knapweed	2/5/2014 12:05 PM
14	bull thistle	1/31/2014 1:59 PM
15	black bindweed	1/31/2014 12:13 PM
16	Spotted Knapweed	1/30/2014 3:00 PM
17	Purple Loosestrife	1/30/2014 1:44 PM
18	Purple Loosestrife	1/30/2014 1:39 PM
19	the knotweeds: Japanese, Bohemian, etc.	1/30/2014 12:43 PM
20	Centarurea stoebe	1/30/2014 12:43 PM
21	Purple loosestrife	1/30/2014 12:38 PM
22	Purple Loosestrife	1/30/2014 12:15 PM
23	Melilotus alba	1/30/2014 11:04 AM
24	Phalaris arundinacea (reed canarygrass)	1/30/2014 9:52 AM
25	Spotted Knapweed	1/30/2014 12:01 AM
26	Canada Thistle	1/29/2014 6:46 PM
#	**5**	**Date**
1	giant hogweed	2/11/2014 5:27 PM
2	Elodea	2/11/2014 4:41 PM
3	Hieracium aurantiacum	2/11/2014 2:39 PM
4	Giant Hogweed	2/11/2014 1:05 PM
5	bull thistle	2/11/2014 11:15 AM
6	Giant hogweed	2/11/2014 11:09 AM
7	canada/bull thistle	2/11/2014 9:15 AM
8	Giant hogweed	2/10/2014 11:24 AM
9	orange hawkweed	2/6/2014 10:39 AM
10	bird vetch	2/6/2014 10:05 AM
11	orange hawkweed	2/5/2014 4:14 PM
12	Japanese knotweed	2/5/2014 12:05 PM
13	reed canary grass	1/31/2014 1:59 PM
14	hempnettle	1/31/2014 12:13 PM
15	Giant Hogweed	1/30/2014 3:00 PM
16	Purple loosestrife	1/30/2014 12:43 PM
17	Cirsium arvense	1/30/2014 12:43 PM
18	Elodea	1/30/2014 12:38 PM
19	White Sweetclover	1/30/2014 12:15 PM
20	Vicia cracca	1/30/2014 11:04 AM
21	Tansy Ragwort	1/30/2014 12:01 AM

Q5 An invasive plant not known to exist in Alaska whose management goal should be to eradicate the population upon detection.

Answered: 25 Skipped: 27

Answer Choices	Responses	
1	**100.00%**	25
2	**72.00%**	18
3	**64.00%**	16
4	**60.00%**	15
5	**48.00%**	12

#	1	Date
1	purple loosestrife	2/11/2014 5:27 PM
2	giant hogweed	2/11/2014 4:41 PM
3	Leafy Spurge	2/11/2014 1:05 PM
4	Leafy spurge	2/11/2014 11:09 AM
5	Himalayan Blackberry	2/11/2014 10:37 AM
6	Eurasian water milfoil	2/11/2014 10:34 AM
7	zebra mussels	2/11/2014 9:44 AM
8	hydrilla	2/11/2014 9:15 AM
9	Leafy spurge	2/10/2014 11:24 AM
10	downy brome	2/6/2014 10:05 AM
11	Scotch broom	2/5/2014 12:05 PM
12	federal list of noxious weeds	2/1/2014 8:55 PM
13	japanese knotweed	1/31/2014 1:59 PM
14	Yellow star thistle	1/31/2014 12:13 PM
15	Kudzu	1/30/2014 3:00 PM
16	Eurasian watermilfoil	1/30/2014 12:43 PM
17	Egeria densa	1/30/2014 12:43 PM
18	Spartina ssp.	1/30/2014 12:38 PM
19	Eurasian Watermilfoil	1/30/2014 12:15 PM
20	Euphorbia esula	1/30/2014 11:04 AM
21	Centaurea stoebe (spotted knapweed)	1/30/2014 9:52 AM
22	eurasian watermilfoil	1/30/2014 8:43 AM
23	Too long a list	1/30/2014 12:22 AM
24	This is an endless question by an agency leach looking to sustain their own job	1/30/2014 12:09 AM
25	Too broad of a question	1/30/2014 12:01 AM

#	2	Date

1	spartina	2/11/2014 5:27 PM
2	leafy spurge	2/11/2014 4:41 PM
3	European Buckwheat	2/11/2014 1:05 PM
4	Bull thistle	2/11/2014 11:09 AM
5	Leafy Spurge	2/11/2014 10:37 AM
6	Purple loosestrife	2/11/2014 10:34 AM
7	Eurasian watermilfoil	2/11/2014 9:15 AM
8	Eurasian watermillfoil	2/10/2014 11:24 AM
9	Kudzu	2/5/2014 12:05 PM
10	elodea canadensis	1/31/2014 1:59 PM
11	russian Knapweed	1/31/2014 12:13 PM
12	Leafy Spurge	1/30/2014 3:00 PM
13	Brazilian waterweed	1/30/2014 12:43 PM
14	Myriophyllum spicatum	1/30/2014 12:43 PM
15	Eurasian watermilfoil	1/30/2014 12:38 PM
16	Leafy Spurge	1/30/2014 12:15 PM
17	Spatina spp.	1/30/2014 11:04 AM
18	giant hogweed	1/30/2014 8:43 AM
#	**3**	**Date**
1	hydrilla	2/11/2014 5:27 PM
2	field bindweed	2/11/2014 4:41 PM
3	Kudzu	2/11/2014 1:05 PM
4	Yellow star thistle	2/11/2014 11:09 AM
5	European buckthorn	2/11/2014 10:34 AM
6	parrotfeather	2/11/2014 9:15 AM
7	Spartina sp.	2/10/2014 11:24 AM
8	Himalayan blackberry	2/5/2014 12:05 PM
9	spotted knapweed	1/31/2014 1:59 PM
10	Purple loose-strife	1/31/2014 12:13 PM
11	Wild Buckwheat	1/30/2014 3:00 PM
12	Hydrilla	1/30/2014 12:43 PM
13	Heracleum mantegazzianum	1/30/2014 12:43 PM
14	Leafy spurge	1/30/2014 12:38 PM
15	Acroptilon repens	1/30/2014 11:04 AM
16	kudzu	1/30/2014 8:43 AM
#	**4**	**Date**
1	cheat grass	2/11/2014 5:27 PM
2	Yellow star thistle	2/11/2014 4:41 PM
3	Eurasian Milfoil	2/11/2014 1:05 PM
4	Eurasian millfoil	2/11/2014 11:09 AM

5	Hydrilla	2/11/2014 10:34 AM
6	purple loosestrife	2/11/2014 9:15 AM
7	Nymphaea odorata	2/10/2014 11:24 AM
8	Hydrilla	2/5/2014 12:05 PM
9	bull thistle	1/31/2014 1:59 PM
10	Himalya blackberry	1/31/2014 12:13 PM
11	Hairy White Top	1/30/2014 3:00 PM
12	The other knapweeds (Russian, etc.)	1/30/2014 12:43 PM
13	Spartina alterniflora	1/30/2014 12:43 PM
14	Any plant known to be invasive.	1/30/2014 12:38 PM
15	Centaurea diffusa	1/30/2014 11:04 AM
#	**5**	**Date**
1	kudzu	2/11/2014 5:27 PM
2	Scotchbroom	2/11/2014 4:41 PM
3	Hydrilla	2/11/2014 1:05 PM
4	European buckthorn	2/11/2014 11:09 AM
5	Brazilian waterweed	2/11/2014 9:15 AM
6	Russian olive	2/10/2014 11:24 AM
7	Eurasian watermilfoil	2/5/2014 12:05 PM
8	canada thistle	1/31/2014 1:59 PM
9	Puncture vine	1/31/2014 12:13 PM
10	Japanese Knotweed	1/30/2014 3:00 PM
11	Hydrilla verticilliata	1/30/2014 12:43 PM
12	Anything from a similar ecotome in Canada, Russia	1/30/2014 11:04 AM

Q6 An invasive plant known to exist in varying populations throughout Alaska whose eradication from infested areas is unlikely, and the management goal should be to prevent the spread of the species to un-infested areas.

Answered: 32 Skipped: 20

Answer Choices	Responses	
1	**100.00%**	32
2	**81.25%**	26
3	**81.25%**	26
4	**68.75%**	22
5	**53.13%**	17

#	1	Date
1	Canada thistle	2/11/2014 5:27 PM
2	Canada thistle	2/11/2014 4:41 PM
3	Melilotus albus	2/11/2014 2:39 PM
4	Melilotus albus	2/11/2014 1:05 PM
5	clover	2/11/2014 11:15 AM
6	White Sweetclover	2/11/2014 11:09 AM
7	Reed Canary Grass	2/11/2014 10:37 AM
8	Reed canary grass	2/11/2014 10:34 AM
9	Bird vetch	2/11/2014 9:44 AM
10	white sweet clover	2/11/2014 9:16 AM
11	RCG	2/11/2014 9:15 AM
12	orange hawkweed	2/10/2014 11:24 AM
13	white sweet clover	2/6/2014 10:05 AM
14	white sweet clover	2/5/2014 4:14 PM
15	Reed canarygrass	2/5/2014 12:05 PM
16	orange hawkweed	1/31/2014 1:59 PM
17	White sweetclover	1/31/2014 12:13 PM
18	Dandelion	1/30/2014 3:00 PM
19	Bird Vetch	1/30/2014 1:44 PM
20	Japanese knotweed	1/30/2014 1:39 PM
21	Creeping thistle	1/30/2014 12:43 PM
22	Melilotus spp	1/30/2014 12:43 PM
23	Orange hawkweed	1/30/2014 12:38 PM

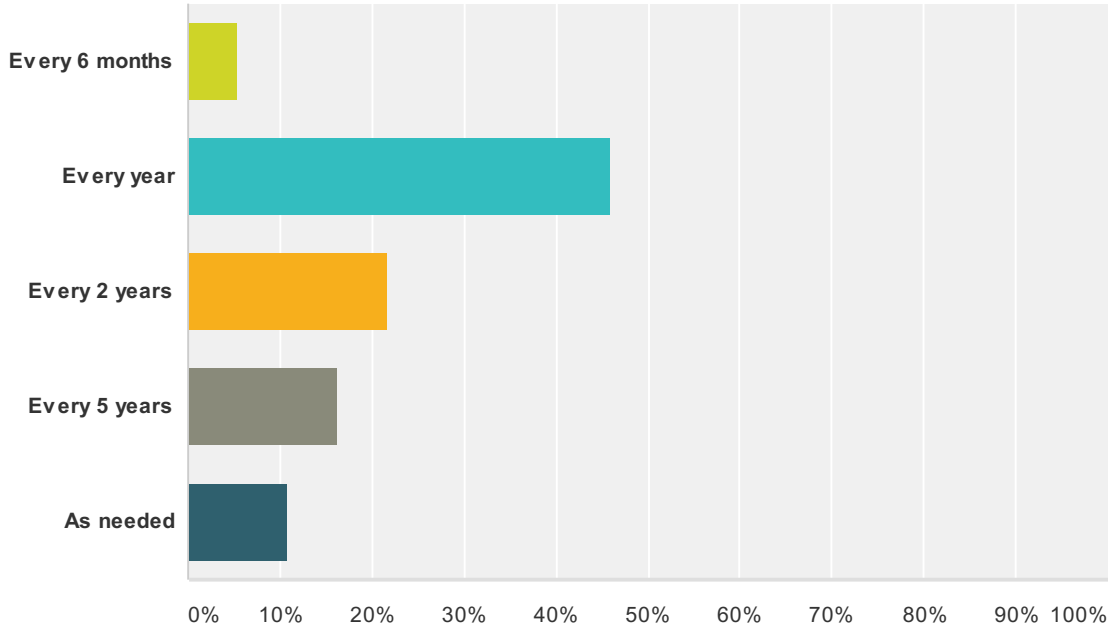
24	Orange Hawkweed	1/30/2014 12:15 PM
25	Melilotus alba	1/30/2014 11:04 AM
26	white sweetclover	1/30/2014 9:52 AM
27	sweetclover	1/30/2014 8:44 AM
28	white sweetclover	1/30/2014 8:43 AM
29	This is a question of funding	1/30/2014 12:22 AM
30	with most species this would be so incredibly expensive - and an endless cycle....oh ya, it's YOUR INCOME that benefits from perpetuation	1/30/2014 12:09 AM
31	The decision is more complicated than this question allows	1/30/2014 12:01 AM
32	White Sweet Clover	1/29/2014 6:46 PM
#	**2**	**Date**
1	reed canarygrass	2/11/2014 5:27 PM
2	Perennial sowthistle	2/11/2014 4:41 PM
3	Vicia cracca	2/11/2014 2:39 PM
4	Viccia cracca	2/11/2014 1:05 PM
5	Bird Vetch	2/11/2014 11:09 AM
6	Orange Hawkweed	2/11/2014 10:37 AM
7	European bird cherry	2/11/2014 10:34 AM
8	Hawkweed	2/11/2014 9:44 AM
9	bird vetch	2/11/2014 9:16 AM
10	white sweetclover	2/11/2014 9:15 AM
11	Prunus padus	2/10/2014 11:24 AM
12	canada thistle	2/6/2014 10:05 AM
13	bird vetch	2/5/2014 4:14 PM
14	White sweetclover	2/5/2014 12:05 PM
15	bull and canada thistle	1/31/2014 1:59 PM
16	Bird Vetch	1/31/2014 12:13 PM
17	Tansy	1/30/2014 3:00 PM
18	Sweetclover (white or yellow)	1/30/2014 1:44 PM
19	Spotted Knapweed	1/30/2014 1:39 PM
20	Orange hawkweed	1/30/2014 12:43 PM
21	Vicia cracca	1/30/2014 12:43 PM
22	Bohemian knotweed	1/30/2014 12:38 PM
23	Ornamental Jewelweed	1/30/2014 12:15 PM
24	Vicia cracca	1/30/2014 9:52 AM
25	bird vetch	1/30/2014 8:43 AM
26	Dandelion	1/29/2014 6:46 PM
#	**3**	**Date**
1	whitesweetclover	2/11/2014 5:27 PM
2	Yellow toadflax	2/11/2014 4:41 PM

3	Linaria vulgaris	2/11/2014 2:39 PM
4	Orange hawkweed	2/11/2014 1:05 PM
5	Perennial Sowthistle	2/11/2014 11:09 AM
6	Bohemian Knotweed	2/11/2014 10:37 AM
7	Spartina	2/11/2014 10:34 AM
8	shephards purse	2/11/2014 9:44 AM
9	elodea	2/11/2014 9:16 AM
10	bird vetch	2/11/2014 9:15 AM
11	Creeping thistle	2/10/2014 11:24 AM
12	reed canarygrass	2/6/2014 10:05 AM
13	narrowleaf hawksbeard	2/5/2014 4:14 PM
14	Orange hawkweed	2/5/2014 12:05 PM
15	bird vetch	1/31/2014 1:59 PM
16	European bird cherry	1/31/2014 12:13 PM
17	Bird Cherry	1/30/2014 3:00 PM
18	Pineappleweed	1/30/2014 1:44 PM
19	Orange hawkweed	1/30/2014 1:39 PM
20	Bird vetch	1/30/2014 12:43 PM
21	Elodea spp. (i.e. may be too late for eradication)	1/30/2014 12:43 PM
22	Reed canarygrass	1/30/2014 12:38 PM
23	Reed Canarygrass	1/30/2014 12:15 PM
24	Linaria vulgarus (butter and eggs)	1/30/2014 9:52 AM
25	orange hawkweed	1/30/2014 8:43 AM
26	Orange Hawkweed	1/29/2014 6:46 PM
#	**4**	**Date**
1	bird vetch	2/11/2014 5:27 PM
2	hawkweed	2/11/2014 4:41 PM
3	Caragana aborescens	2/11/2014 2:39 PM
4	Yellow toadflax	2/11/2014 1:05 PM
5	Canada Thistle	2/11/2014 11:09 AM
6	Perennial Sowthistle	2/11/2014 10:37 AM
7	lambsquarters	2/11/2014 9:44 AM
8	alfalfa	2/11/2014 9:16 AM
9	European bird cherry	2/11/2014 9:15 AM
10	the knotweed complex	2/10/2014 11:24 AM
11	toadflax	2/6/2014 10:05 AM
12	Bird vetch	2/5/2014 12:05 PM
13	reed canary grass	1/31/2014 1:59 PM
14	oxeye daisy	1/31/2014 12:13 PM
15	Elodea	1/30/2014 3:00 PM

16	Plantain	1/30/2014 1:44 PM
17	White sweetclover	1/30/2014 12:43 PM
18	Prunus padus	1/30/2014 12:43 PM
19	Canadian thistle	1/30/2014 12:38 PM
20	Spotted Knapweed	1/30/2014 12:15 PM
21	Prunus padus	1/30/2014 9:52 AM
22	reed canarygrass	1/30/2014 8:43 AM
#	**5**	**Date**
1	orange hawkweed	2/11/2014 5:27 PM
2	bird vetch	2/11/2014 4:41 PM
3	Hieracium aurantiacum	2/11/2014 2:39 PM
4	Oxeye daisy	2/11/2014 1:05 PM
5	Reed Canarygrass	2/11/2014 11:09 AM
6	Creeping Thistle	2/11/2014 10:37 AM
7	reed canarygrass	2/10/2014 11:24 AM
8	Perennial sowthistle	2/5/2014 12:05 PM
9	white sweet clover (and yellow)	1/31/2014 1:59 PM
10	common Plantain	1/31/2014 12:13 PM
11	Bird Vetch	1/30/2014 3:00 PM
12	Toadflax	1/30/2014 1:44 PM
13	Reed canarygrass	1/30/2014 12:43 PM
14	Polygonum cuspidatum (i.e. may be too late for eradication)	1/30/2014 12:43 PM
15	Meadow hawkweed	1/30/2014 12:38 PM
16	Fall Dandelion	1/30/2014 12:15 PM
17	hawkweeds	1/30/2014 9:52 AM

Q7 How often should invasive plant prioritization be revisited to be representative of current land management issues?

Answered: 37 Skipped: 15



Answer Choices	Responses	
Every 6 months	**5.41%**	2
Every year	**45.95%**	17
Every 2 years	**21.62%**	8
Every 5 years	**16.22%**	6
As needed	**10.81%**	4
Total		**37**

Q8 Comments:

Answered: 7 Skipped: 45

#	Responses	Date
1	Good Luck!	2/11/2014 10:35 AM
2	we need more landscape level approach to invasive plant management, particularly with the extensive remote mining operations that involve multiple land manager jurisdictions	1/31/2014 2:00 PM
3	In general, I think you should choose a prioritization and stick with it for 5 years. But if a new arrival is suddenly detected it makes sense to jump on it quickly rather than wait until your next schedule evaluation of the priorities.	1/30/2014 12:44 PM
4	Thansk Brianne	1/30/2014 11:05 AM
5	Eradicate all invasive that are harmful to native wildlife, fishing streams and berries!	1/30/2014 8:48 AM
6	Revisiting should be 10 years and there needs to be oversight on you people - of course everything is justified since it your jobs at stake and agencies are in charge with absolutely no input from experts, stakeholders, property rights advocates, economists, realists, or conservatives.	1/30/2014 12:24 AM
7	A good plan only needs to be revisited (which is very expensive and time consuming) about every 10 years; your job should be handed over to a land manager who wouldn't waste so much money and could get us progressing in the real battle against A FEW SPECIES of genuine concern; and last comment is that this extreme environmentalist approach that supports preservation, extreme biodiversity protection, offsets to global warming is so wrong. I can't believe the State of Alaska is letting/promoting this environmentalist movement.	1/30/2014 12:15 AM

Criteria Development

Table 1Raw Survey: Top priorities as determined by ranking of "very important" by the majority (50% or more) of respondents.

	Factor	Very Important	Important	Not Important	Response Count	% Ranked as Very Important
1	A species distribution within Alaska	28	9	2	47	**60%**
5	Economic loss from a species	25	16	2	47	**53%**
8	A species impact (potential or realized) to terrestrial resources	24	15	2	47	**51%**
9	A species impact (potential or realized) to aquatic resources	31	9	2	47	**66%**
10	A species impact (potential or realized) to terrestrial wildland resources	25	12	1	46	**54%**
11	A species treatment difficulty	24	12	1	47	**51%**
13	A species potential spread by humans	24	14	1	47	**51%**
16	Availability of funding	31	11	1	48	**65%**

Development of Criteria

Criteria: Impact (questions 5; 8-10)

Description: Documented impact from species presence

Criteria: A species distribution within Alaska (question 1)

Potential criteria:

- Present in the state
- Limited distribution within the state (DEFINE)
- Moderate distribution within the state (DEFINE)
- Widespread distribution within the state (DEFINE)

Criteria: A species treatment difficulty

- Effective control method available? (is there a method available to kill the plant, prevent reproduction and eliminate seed bank within 10 years? → Speaks to ability to eradicate)

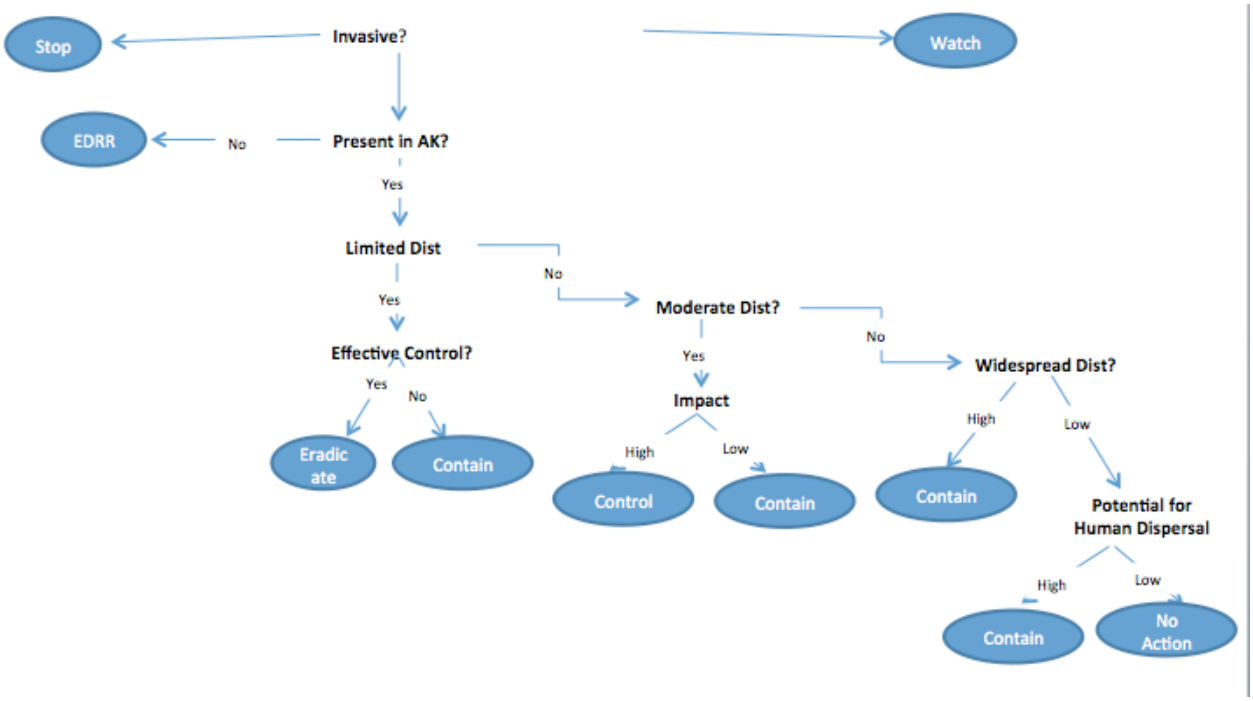
Criteria: A species potential spread by humans

- High potential to be spread by human activities (directly and indirectly)

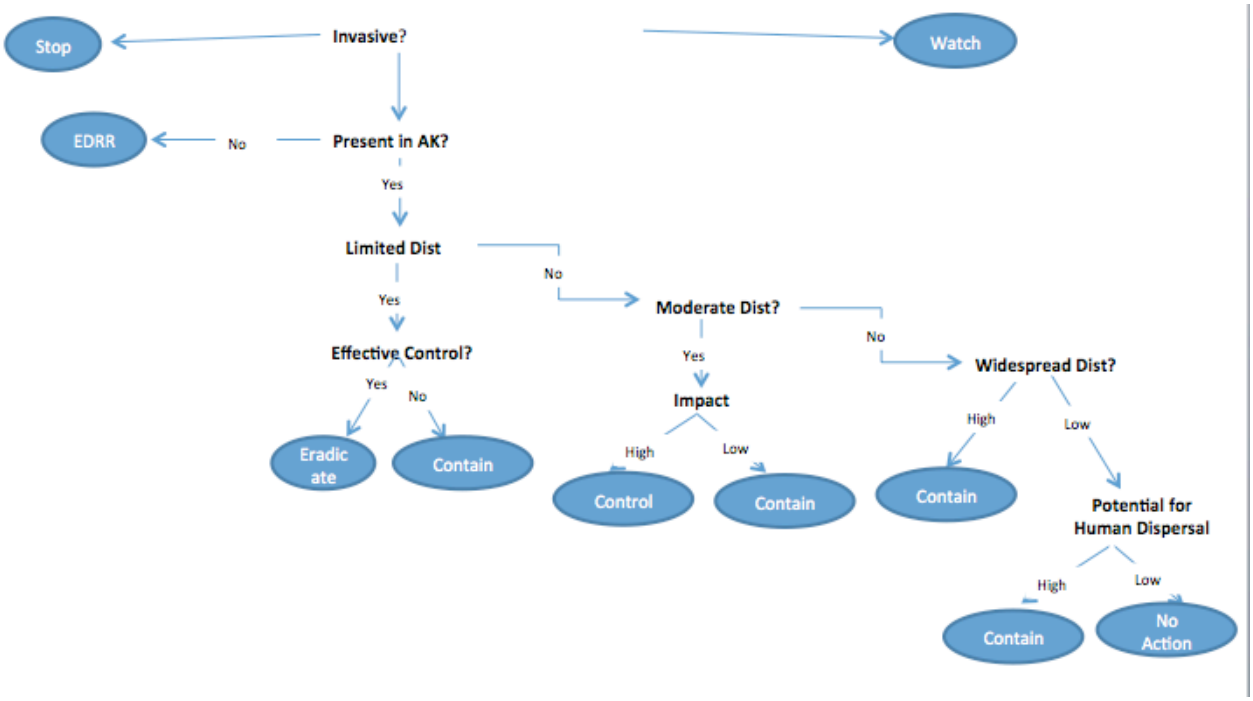
Availability of funding→no

Framework Development:

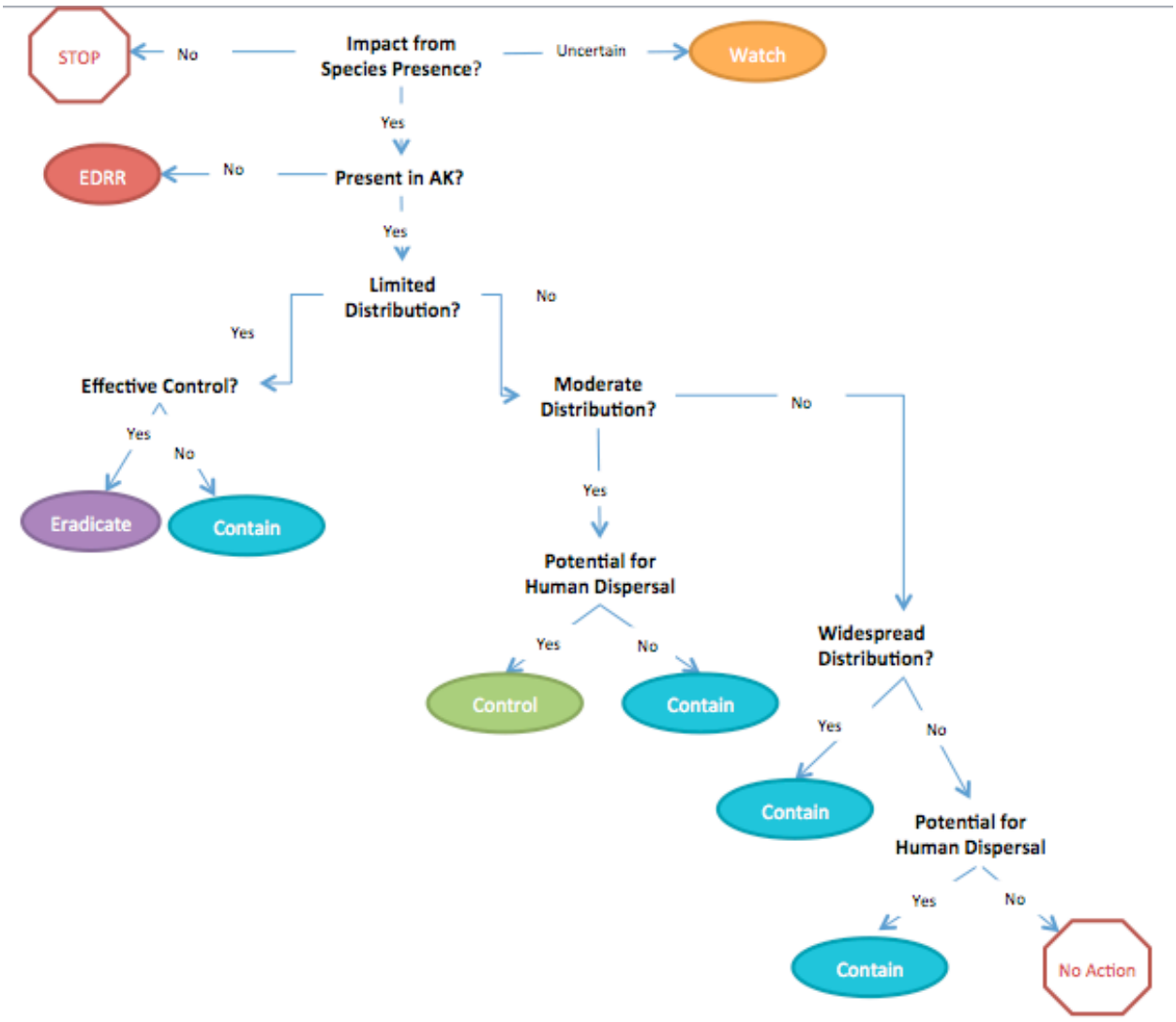
Iteration 1



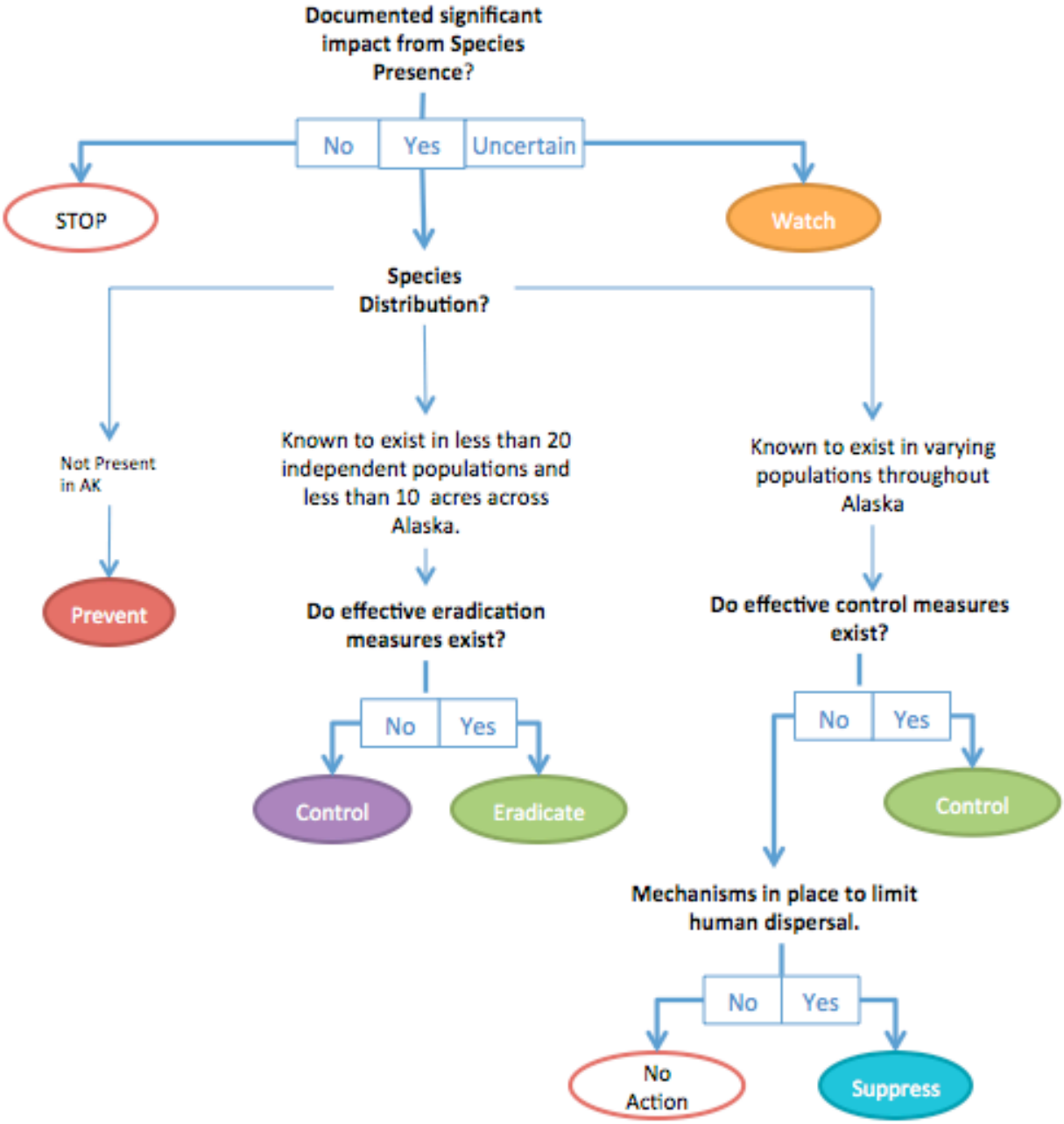
Iteration 2



Iteration 3



Iteration 4-Final


Documented significant impact from Species Presence?
No
Yes
Uncertain
STOP
Watch
Species Distribution?
Not Present in AK
Prevent
Known to exist in less than 20 independent populations and less than 10 acres across Alaska.
Do effective eradication measures exist?
No
Yes
Control
Eradicate
Known to exist in varying populations throughout Alaska
Do effective control measures exist?
No
Yes
Control
Mechanisms in place to limit human dispersal.
No
Yes
No Action
Suppress

Project Management Department
University of Alaska Anchorage

Development of a Methodology for the Prioritization of Invasive Plant Management in Alaska

Project Management Plan

April 2014
V. 5

Revision History

Date	Author	Description of Change
25 Oct 2013	B. Blackburn	Original
24 Nov 2013	B. Blackburn	Update
07 Dec 2013	B. Blackburn	Include additional supporting documents
01 Feb 2014	B. Blackburn	minor formatting, inclusion of project journal, updates to risk mgmt plan, milestones
22 April 2014	B. Blackburn	Final updates and inclusion of execution data

Table of Contents

Appendices

Status Reports

Development of a Methodology for the Prioritization of Invasive Plant Management in Alaska

This document provides an overall plan for the Development of a Methodology for the Prioritization of Invasive Plant Management in Alaska Project. The Project Management Plan (PMP) defines management strategy, organization, and controls for the project, and identifies subsidiary plans that will provide the framework for successful design, execution, and closeout of the project as a part of the capstone coursework for University of Alaska (UAA) Project Management 686A. Approval of this preliminary PMP will be required prior to continuation onto PM 686B coursework.

The PMP is a living document that may be updated throughout the duration of the project.

1 Project Overview

1.1 Introduction

The control of invasive, non-native plants is of increasing concern in ecosystem management as invasive plant species are found to be threatening natural resources through the disruption of biodiversity, habitat structure, and ecosystem processes across the world (Pimentel 2002). As resources for managing invasive plants are limited, the need to evaluate and rank non-native species is a primary concern before expensive management is attempted so that the most threatening species may be addressed first (Wainger and King 2001).

Alaska has remained relatively unaffected by the negative consequences of non-native plant establishment that has plagued most regions of the world. Our relatively cool climate and remote location have kept many invaders out, but in recent years, land managers in Alaska have become acutely aware of the increasing populations of invasive weeds in urban areas, on roadsides, and in waterways.

The Alaska Department of Natural Resources, Division of Agriculture (DOA) maintains programs and regulations aimed at managing invasive weeds through inventory, control, coordination and outreach efforts statewide. The DOA maintains the Plant Health and Quarantine Regulations as they pertain to Invasive Plant Management in Alaska. These regulations involve the designation of invasive plants as prohibited and restricted noxious weeds based on management priorities. The goal of this project is to develop a tool based on existing invasiveness ranking models and subject matter expert priorities and tolerances for invasive plants. This tool will incorporate a risk-based decision matrix and a standard use protocol that can be used to guide decisions to prioritize invasive plant for management in Alaska. The development of such a tool will allow for a more objective process that can

inform regulatory decisions and more clearly communicate agency goals and priorities to stakeholders.

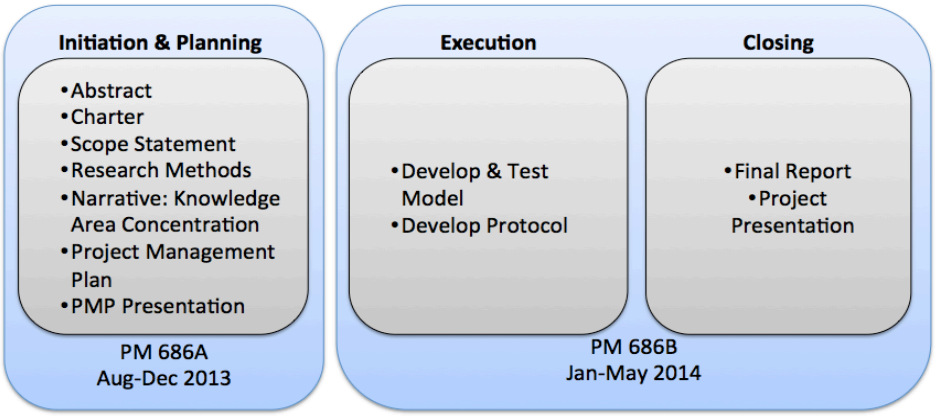
1.2 Scope

The project will encompass the development and testing of a tool that will guide prioritization of invasive plant management for the Department of Natural Resources, Division of Agriculture. This tool will be comprised of two parts: 1) a risk-based decision matrix and 2) a standard use protocol. The decision matrix will be established based on key stakeholder management priorities determined through structured surveys. The tool will be tested through simulation.

Project Objective	Agency Goals
Identify and assess subject matter expert priorities	Prioritize management of invasive plants in Alaska
Development of a tool to prioritize invasive plant species	Create objective process to inform policies and regulations

The project goals will be completed through the PM 686A and 686B course structure for initiation, planning, executing, controlling, and closing, as outlined below. For the purposes of scope confirmation and monitoring, the project will be broken into three phases: Initiation and Planning, Execution, and Closing. At each control/monitoring checkpoint (major milestones), the PM will confirm the scope and will evaluate and track necessary changes to achieve the project objectives. This will involve reviewing the requirements, planned deliverables, and schedule with the sponsor, advising committee and other internal project stakeholders as necessary. Scope processes will be considered closed when all deliverables defined in the schedule have been delivered and approved by the PM and when all major milestones have been met.

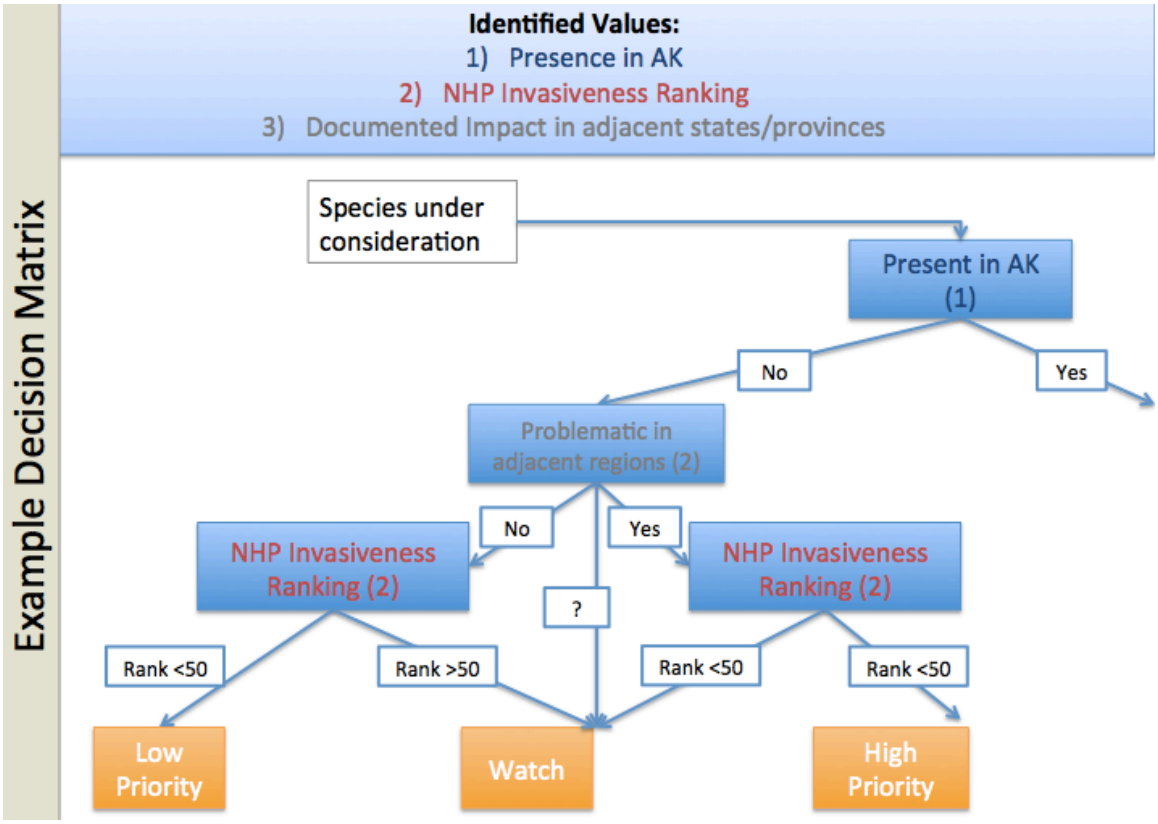
Project Scope & Key Deliverables



Risk-Based Decision Matrix

A decision matrix will be created to systematically incorporate stakeholder values to determine suggestions for prioritization of invasive plant management for the Division of Agriculture. Surveys will be conducted to elicit stakeholder values and priorities as they relate to invasive plant management in Alaska. Survey results will be analyzed and categorized by type of response and the most relevant and reoccurring values will be incorporated into a decision matrix. For example, if the survey results indicate that a species 1) presence in Alaska, 2) NHP invasiveness ranking (Carlson et al. 2008), and 3) documented impact in adjacent states/provinces are identified as critical factors in determining stakeholder priorities, these criteria could be plugged into a decision-matrix structure to assess prioritization (see example below).

This decision-matrix, coupled with a use protocol, will provide an objective, repeatable procedure that can be used as a part of an annual review of strategic goals and priorities, or when needed as new species are identified.

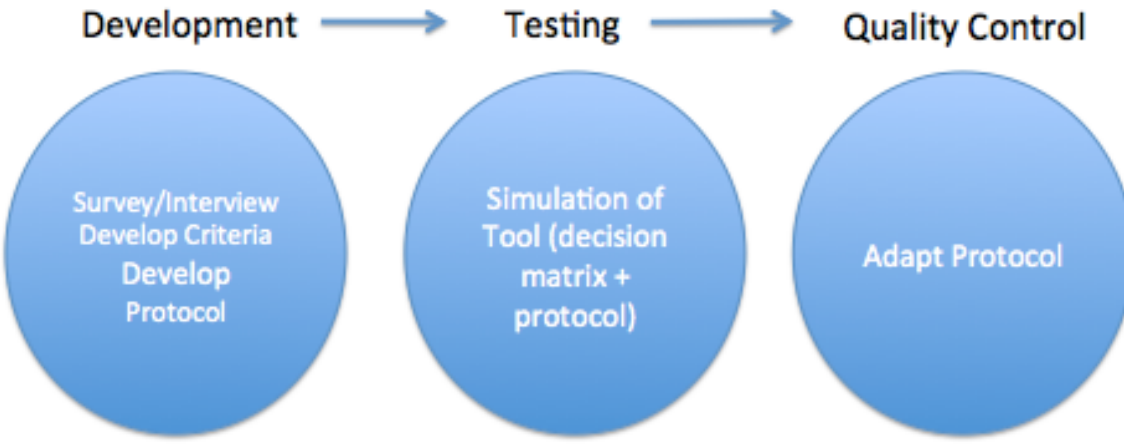


Quality

Quality will be monitored for this project through a plan-do-check-act process. A product (model and protocol) testing phase will be implemented once draft products are available. The testing phase will include a simulation, assessment of

simulation, and adoption of corrections, as necessary.

Simulation of draft tool will be performed with standard species profile performed by more than 1 tester achieving the same overall prioritization/classification. This will be an opportunity for the project team to evaluate the product's performance based on ease o use, representation of priorities, and adaptability.



Update: 11 April 2014- The final product, as included with this PPM 4, did not undergo the full simulation and correction process as had been planned, but these tasks will continue over the next few weeks. Because the final deliverables are due with this PPM, these elements have been removed from scope through the change process. This response was previously planned in the risk management process.

To be clear, these tasks will still occur; they are just outside of the original project timeline and therefore outside of the project. If sufficient progress is made before the final deliverables are due, they will be reported on as an "update."

1.3 Out Of Scope

Agency implementation of tool and protocol is outside of project scope.

Update: 11 April 2014-full testing of product was removed from scope due to time constraints. A cursory review was done with limited stakeholder audience and further simulation and corrections will be implemented outside of this project timeline.

1.4 Measures of Success

Project success will be measured according to both the standards of the PM 686A/B coursework and the product of the project. See Project Controls Plan for information on how performance of the project will be monitored throughout the lifecycle of the project.

Product of the project

Success Criteria	Measure
Stakeholder participation (surveys)	15 or more responses to surveys
Repeatable and objective tool	Simulation of draft tool with standard species profile performed by more than 1 tester achieving the same overall prioritization/classification
Management priorities based on current available science	Identification and documentation of relevant peer reviewed literature supporting decision matrix criteria
Communication with stakeholders	No less than three (3) scheduled opportunities for contact with participating stakeholders (discussion of goals, survey, follow up, thank you)

PM 686A Coursework

	PPM	Quality	Completeness	On-time	Stakeholder Mgmt	Approval	Total Pts
Project Progress Milestones	PPM 1	.5	.5	.5	.5		2
	PPM 2	1	1	1	1		4
	PPM3	4	1	1	2		8
	PPM 4	4	1	1	2	2	10
Oral Presentation		Oral	Visual Aids	Subject	Time allocation	Overall	Total Pts
		4	4	4	4	4	20
Final Course Deliverables		Final Deliverables (PMP)					46
		Leadership and Contribution to Learning					10

PM 686B Coursework

	PPM	Quality	Completeness	On-time	Stakeholder Mgmt	Knowledge Area	Total Pts
Project Progress Milestones	PPM 1	1	1	1	1	1	5
	PPM 2	4	1	1	2	1	9
	PPM3	6	1	1	2	1	11
	PPM 4	7	1	1	3	1	13
Oral Presentation		Oral	Visual Aids	Subject	Time allocation	Overall	Total Pts
		4	4	4	4	4	20
Final Course Deliverables		Final Deliverables (Report)					36
		Leadership and Contribution to Learning					6

1.5 Project Schedule

For a complete schedule, see schedule attached as Appendix. Progress will be measured based on milestone achievement (outlined below). The identified milestones have been assessed for estimated percent project completion and progress will be tracked based on achievement of that milestone by scheduled date.

Major Tasks & Milestones	Scheduled Completion	Measure of Project Progress (upon completion)
PPM #1	13 Sept 2013	5%
PPM #2	4 Oct 2013	10%
PPM #3	24 Oct 2013	15%
PPM # 4	22 Nov 2013	25%
Approval of PMP (Go/No-Go Point)	29 Nov 2013	30%
Oral Defense	3 Dec 2013	35%
Submission of final 686A Deliverables (PMP)	9 Dec 2013	40%
Transition from 686A to 686 B **Control/Monitor Checkpoint #1**	10 Dec 2013	45%
Survey Data collected from key stakeholders **Control/Monitor Checkpoint #2**	1 Feb 2014	55%
PPM #1	7 Feb 2014	60%
PPM #2	28 Feb 2014	65%
Development of draft decision matrix criteria	1 Mar 2014	80%
PPM #3	21 March 2014	85%
PPM # 4 (Go/No-Go Point) **Control/Monitor Checkpoint #3**	11 April 2014	90%
Oral Defense	21/22 Apr 2014	95%
Submission of final 686B Deliverables (Report)	28 April 2014	100%

1.6 Project Cost

This project is being carried out as a requirement for the MSPM 686A/B capstone coursework and will not include a cost management component.

1.7 Project Journal

A Project Journal will be maintained as a way to document issues that arise, decision processes, and lessons learned as the project progresses. The Project Journal will be developed into a more formal Project Narrative that will be a part of the Project Closeout Process (see section 6). The Project Journal will be a way to document minor changes that do not warrant full Change Request Processes (changes that have the potential to impact the project schedule by 5% or greater).

2 Organizational Plan

The purpose of this organization plan is to define the roles and responsibilities between the team members for this project.

2.1 Project Sponsor (Manager)-Stoney Wright

The project sponsor provides high-level leadership and support for a successful project. The sponsor helps facilitate the necessary organizational support needed to make strategic decisions and ensures that project is aligned with organizational goals. The sponsor provides final approval of scope of work documents.

Due to current Project Sponsor's plans for retirement, Project sponsorship will be shared with the Division of Agriculture Director, Franci Havemeister. Ms. Havemeister will be sole project sponsor as of January 1, 2014.

2.2 Project Manager-Brianne Blackburn

The Project Manager (PM) is the primary owner of the project and is ultimately responsible for the successful completion of the project. The PM is responsible for completion PM 686A/B coursework deliverables as well as the project work outlined in this PMP including final documentation and presentations. The PM is also responsible for soliciting, coordinating, and responding to feedback from internal and external stakeholders, including the Advising Committee.

2.3 Primary Advisor-LuAnn Piccard

The primary program advisor is accountable for providing coaching, feedback and assessment input as arranged with the PM. The advisor is the PM's primary point of contact for academic issues and ensuring the project deliverables are completed in accordance with expectations of the stakeholders and department.

2.4 Committee Members

Committee Members are accountable for providing coaching, feedback and assessment input as arranged with the PM. Committee Members are responsible for ensuring project deliverables are completed in accordance with expectations of the stakeholders and department.

Roger Hull: MSPM Faculty Advisor

Gino Graziano: Subject Matter Expert Advisor

2.5 Organization Contacts

Name	Role	Email	Phone
Brianne Blackburn	Project Manager	Blackburn.brianne@gmail.com	(907) 982-7679
LuAnn Piccard	Advisor	lpiccard2@uaa.alaska.edu	(907) 786-1917
Stoney Wright Franci Havemeister	Sponsor	Stoney.Wright@alaska.gov Franci.Havemeister@alaska.gov	(907) 745-4469 (907) 761-3867
Roger Hull	Committee Member	rkhull@uaa.alaska.edu	(907) 786-1923
Gino Graziano	Committee Member	gagraziano@alaska.edu	(907) 786-6315

3 Stakeholder Management Plan

3.1 Introduction

The product of this project will be a methodology by which statewide priorities for invasive plant management will be assessed. This has the potential to impact a broad range of stakeholders from the agricultural and horticultural industry, state and federal agencies, and private landowners. With this large or a stakeholder list, it will be critical to engage, thoroughly identify requirements and monitor their perception of the project. The decisions that will be made using this tool will be part of the public process and will therefor live or die by stakeholder perception.

The PM will be responsible for managing stakeholders throughout the duration of the project. Communication with stakeholders will be the primary focus of the stakeholder management plan.

3.2 Stakeholder Management Processes

Identification

A stakeholder register is included with this plan, which identifies key internal and external stakeholders, their requirements, and general communication information. Recognizing that stakeholder management is a dynamic process throughout the lifecycle of a project, the information included in the stakeholder management documentation will be reviewed at key milestones for accuracy of requirements and changes to stakeholder list.

Prioritization

Using the Stakeholder Circle methodology (Bourne, 2009) identified stakeholders were ranked according to their relevant importance to the work at a particular time. This ratings are based on aspects of power, proximity, and urgency, which are

essential elements for understanding which stakeholders are more important than others at any specific time and ensuring their visibility. The Prioritization results (included with this plan) identify three (3) main categories of key stakeholders, which can be grouped and treated more broadly for simplicity. Noteworthy, is the grouping of "external contributors," which is while all rank relatively lowly, is comprised of over 11 different groups, which warranted attention as a key stakeholder.

Engagement

Based on the identification and prioritization process, stakeholders are very loosely grouped in the following categories: Internal administration, Academic Program, External Contributors. These categories were chosen based on a combination of their prioritization and their involvement in the project.

Internal Administration: largely interested in very high-level overview of the project and, at initial planning stages, approval is needed. Engagement activities will largely focused on status reports or when major changes occur.

Academic Program: Committee is involved in an advisory capacity throughout planning and execution of the project. Communication will be established on a routine basis with email dialogue regarding project progress feedback. Every-other-week check-ins will be established to ensure open communication to fulfill academic requirements and to seek assistance on technical aspects of project management efforts.

External Contributors: the largest group of stakeholders is represented by the lowest priority ranking, though their involvement is key during project execution through their involvement in surveys and testing of developed tool.

See Stakeholder Engagement Timing Profile below for more information on the timing of the primary stakeholder engagement.

Stakeholder Engagement (Timing)

Project: Development of a Methodology for the Prioritization of Invasive Plant Management in Alaska

KEY:	Peripherally involved; keep informed	Moderately involved, scheduled update with progress	Highly engaged, contributing/authorizing

Stakeholder Category	Project Phase			
	Initiation (Sept 2013)	Planning (Oct-Dec 2013)	Execution (Jan-Apr 2014)	Closing (May 2014)
Internal Admin				
Academic				
External Contributor				

3.3 Communications Approach

The project team consists primarily of the PM and internal stakeholders at a very high level of involvement. This means most of the communication requirements for this project will involve communication with external stakeholders, both with advisory committee members and external SME stakeholders. The external SMEs will have limited time available to advise on this project, so communication must be targeted and specialized based on their role. A summary of the regular and specialized communication can be found in the Communication Matrix included in this plan.

3.4 Communication Matrix

What	Who/Target	When/Frequency	Type/Methods
Initiation	Advising Committee & Sponsor (separate)	Planning Phase	In person-documents distributed
Regular Project Updates	Advising Committee	Weekly/Bi-weekly	PPM reports, email communication
Execution & Goal Discussion (solicit participation)	SME Stakeholders	As planning phase is closing	Email summary of project goals
Progress Report	Agency Stakeholders	Monthly (or more often if necessary)	In-person for sponsor; email update for higher agency personnel
	SME Stakeholders	Monthly (or more if necessary)	Email progress report & upcoming tasks

3.5 Communication Guidelines

Advising Committee: Project updates will be submitted as PPM updates on provided due dates (see project schedule). Any feedback will be documented and incorporated, as appropriate into project files.

Agency Updates: Progress reports will be presented to sponsor and appropriate agency stakeholders monthly. If a meeting is requested an agenda and meeting minutes will be provided to all attendees.

SME Stakeholders: Because of limited availability of stakeholders, communication will largely be executed via email with standard project updates, unless more information is requested. If a meeting is requested an agenda and meeting minutes will be provided to all attendees

4 Risk Management Plan

The identification and assessment of risk will be ongoing process throughout this project. The PM will work with project sponsors and stakeholders to ensure that risks are actively identified analyzed, and managed throughout the life of this project. Initial risk identification was performed with sponsor and SME committee member input.

4.1 Project Risk Characterization

Initial, high-level risk identification has been performed and will continue to be elaborated as the planning continues. Throughout the project, at each major milestone and control/monitor checkpoint, the PM will re-evaluate the identified risks and characterize the upcoming task's risk environment. Risks will be characterized based on their likelihood of occurring and impact on the project.

The largest risk identified for this project is the engagement of the SME stakeholder because it is their input and collaboration that will inform the development of the final product (model). Because of this, mitigation measures are already in place to engage the stakeholders early and continuously throughout the duration of the project.

Update: 12 Feb 2014-A previously unidentified risk that PM productivity will decrease due to non-project priorities occurred and was formally documented as a potential re-occurring risk and one with high impact.

4.2 Risk Register

An initial risk register is included with the plan and represents and early look at potential risks.

Update: The initial risk register was updated throughout the project and has

replaced the initial.

5 Control Management Plan

The PM will be responsible for control management for this project. Schedule, scope, and change will be monitored through performance reporting, which will inform management decisions made by the PM throughout execution of the project.

A Work Breakdown Structure (WBS) will be used to manage the project at the work-package level. The WBS correlates all schedule, scope and resource elements of a project, which makes it a strong tool for monitoring progress. A WBS for this project has been created and is attached to this plan. The WBS in conjunction with the Gantt Chart will be used to track overall project progress and to preview upcoming scheduled tasks. The WBS attached to the PMP serves as a baseline schedule for the project.

Update: 22 April 2014-An final WBS is attached

5.1 Schedule Control

The completed project schedule is included with this plan. The schedule is organized by major tasks and milestones, which have been assessed for estimated percent project completion and progress will be tracked based on achievement of that milestone by scheduled date. The schedule will be reviewed on a weekly basis to review upcoming tasks and note any major deviations. Reporting for schedule progress and percent completion will occur at the designated major tasks and milestone dates and will include collection of metrics for Schedule Variance (SV) and Schedule Performance Index (SPI). A deviation of greater than 20% for SPI will warrant corrective action.

Metric Calculations

- Schedule Variance (SV)=Earned Value-Planned Value
- Schedule Performance Index (SPI)=Earned Value/Planned Value

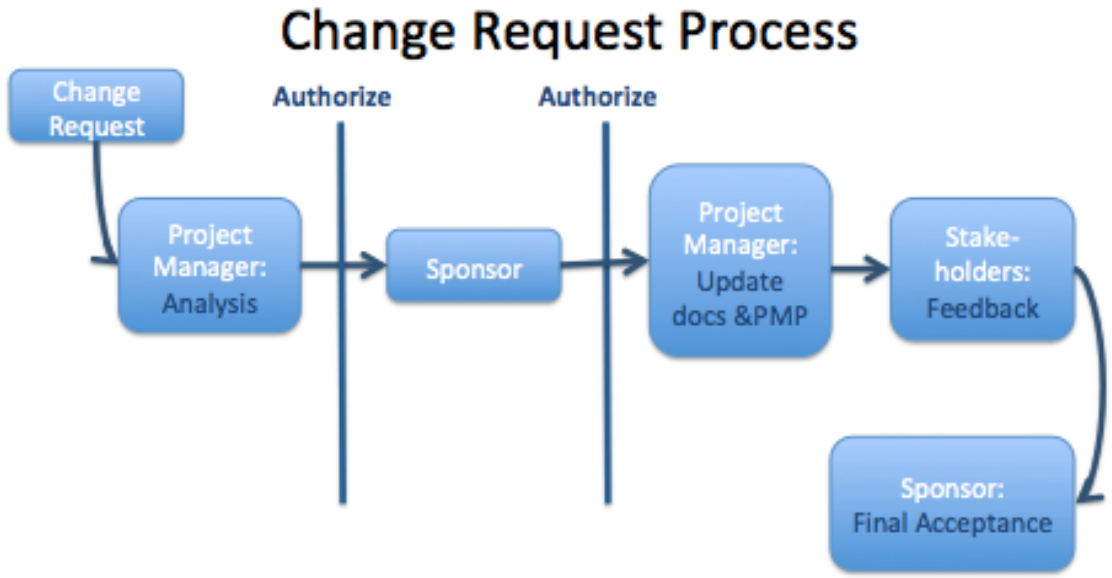
Update: 22 April 2014-An SPI trigger chart is attached

5.2 Scope Control

At each control/monitoring checkpoint (major milestones), the PM will confirm the scope and will evaluate and track necessary changes to achieve the project objectives. This will involve reviewing the requirements, planned deliverables, and schedule with the sponsor, advising committee and other internal project stakeholders as necessary. See project journal (attached) for detailed information.

5.3 Change Control

The project WBS is the base lined scope of work as approved by the PM, Sponsor, and committee. The Project Manager (PM), Sponsor, and Stakeholders may initiate proposed scope changes. Changes which have the potential to impact the schedule by more than 5% will be handled as outlined below. Change requests can be submitted via change order form and a log of all changes can be found with this PMP.



Because this project has little project staff, the PM will manage most of the change process, but approval will be required from the sponsor and feedback will be solicited from appropriate stakeholders.

Change Requests

Change requests will be submitted on the Change Request Template included in this plan. Each request will indicate whether the change will be a cost, scope, or schedule change and, wherever possible, an estimation of actual impact. The change request form will track approval and justification for the change management decisions that are made. A log of the change requests will be maintained as a part of this plan.

6 Closeout Plan

Final project closeout efforts will be concentrated in the last two weeks of the semester, but will be made up of the final steps in processes that were on-going through execution of the project. Project closeout plan deliverables will include confirmation of acceptance criteria, final reporting, project evaluation, and final approval.

6.1 Acceptance Criteria

Final acceptance of the project will be documented through Acceptance Criteria Checklist (see Appendix). Scope processes will be considered closed when all deliverables defined in the schedule have been delivered and approved by the PM and when all major milestones have been met Each scope element is listed, briefly described, and will be signed off as accepted by the Project Manager. Any changes or additional information should be noted prior to signing.

6.2 Project Evaluation

The project structure will be evaluated for efficacy and completeness during the closeout process. This will include an evaluation of the following factors:

- Schedule baseline and WBS
- Change Management Processes
- Communication Management
- Scope Management
- Risk Analysis and Management
- Stakeholder Management

Earned Value Metric data will be compiled, analyzed and documented with project records. The following metrics have been identified in initial project planning as critical information:

- Schedule Performance Index (SPI)
- Schedule Variance (SV)

Lessons Learned

Throughout execution, lessons learned will be documented through the project journal. The project evaluation process will result in a compilation of lessons learned and recommendations to be added to the project database.

6.3 Final Reporting

A final report will be compiled throughout the closure process and will review all functional and technical components as well as project history. This report will include:

- Project Abstract and Key Words

- Literature Review Results
- Research Methods/Approach
- Analysis
- Results
- Conclusions
- Recommendations for further research
- All execution/documentation files

6.4 Closeout Approval

Once all closeout activities have been completed and verified via appropriate checklist as described in previous sections, the complete documentation will be compiled by the PM and reviewed with the Project Sponsor prior to archival.

See Closeout Plan for approval signatures.

7 References

Bourne, L. (2009). *Stakeholder relationship management : A maturity model for organisational implementation.* Farnham, Surrey: Gower ; Burlington, VT : Ashgate.

Carlson, M., I. Lapina, M. Shephard, J. Conn, R. Densmore, P. Spencer, J. Heys, J. Riley, and J. Nielsen. 2008. Invasiveness ranking system for non-native plants of Alaska. USDA Forest Service, R10-TP-143. 218 pp.

Pimentel, D. 2002. Biological Invasions: economic and environmental costs of alien plant, animal, and microbe species. CRC Press, Boca Raton, Florida.

Project Management Institute (PMI) Guide to Project Management Body of Knowledge (PMBOK) 4th Edition (2008)

Wainger, L.A. and D.M. King. 2001. Priorities for weed risk assessment: Using a landscape context to assess indicators of functions, services and values. In Groves, R.H., F.D. Panetta, and J.G. Virtue (eds.) Weed Risk Assessment. CSIRO Publishing, Collingswood, Australia. pp. 34–51.

Project Charter

Information

Project Name :	Development of a Methodology for the Prioritization of Invasive Plant Management Alaska
Project Manager:	Brianne Blackburn, Invasive Plant Program Coordinator
Project Sponsor:	Stoney Wright, Manager- Alaska Plant Materials Center
Prepared By:	Brianne Blackburn

Revision History:

Date	Author	Description of Change
13 Sept 2013	Brianne Blackburn	Original

Description

The Department of Natural Resources, Division of Agriculture maintains the Plant Health and Quarantine Regulations as they pertain to Invasive Plant Management in Alaska. These regulations involve the designation of invasive plants as prohibited and restricted noxious weeds based on management priorities. The goal of this project is to develop a model based on subject matter expert and land management agency priorities and tolerances for invasive plants. A model would incorporate a matrix of risk-based criteria that can be used to guide decisions to prioritize invasive plant for management in Alaska. The development of such a tool will allow for a more objective process that can inform our regulatory decisions and more clearly communicate our goals and priorities to stakeholders.

Scope

The scope of this project includes:

- Identifying key stakeholders
- Assessing current stakeholders priorities and tolerances for invasive plants in Alaska
- Creating a set of criteria to evaluate relevant invasive plant species based on identified priorities
- Further developing the criteria into a repeatable process or model that can be updated and utilized as necessary to inform regulatory decisions

Objectives

Project Objective	Agency Goals
Identify and assess subject matter expert priorities	Prioritize management of invasive plants in Alaska
Development of a model to prioritize plant species	Create objective processes to inform policies and regulations

Critical Success Factors

- Stakeholder participation
- Repeatable and objective model and methodology
- Management priorities based in current, available science
- Communication with stakeholders

Milestones

- Identification of key stakeholders
- Development of process to collect information from SME (surveys, interview)
- Execute information gathering processes
- Analyze information collected from SME's
- Development of risk-based criteria
- Development of model and methodology to prioritize management efforts

Assumptions

- Continued agency support for project
- Stakeholder/SME will participate in a timely manner with information gathering

Constraints

- Availability of SME
- Advising agency personal have limited availability

Risks/Opportunities

- Lack of engagement by key stakeholder groups
- Contradicting stakeholder priorities
- On-going regulatory processes will

Stakeholders

Internal

- Division of Agriculture Director
- Deputy Commissioner of DNR
- PMC Manager
- Inspection Staff
- DNR Attorney General

External

- Agricultural Industry
- Horticulture Industry
- Soil and Water Conservation Districts
- Cooperative Weed Management Areas
- UAF Cooperative Extension Service
- BLM
- US FS
- NPS
- ADF&G

- DOT
- Outside State Noxious Weed Boards/Councils
- UAA MSPM Advisory Committee

Roles and Responsibilities

Role	Responsibilities
Executive Sponsor	• Project Advocate • Support business case
Sponsor	• Project advocate • Advise on project direction • Advise on risk management
Advisory Committee	• Review project progress • Advise on content
Project Manager	• Ensure timely and effective communication • Maintain schedule and communicate project status

Signatures

Project Manager:

Project Sponsor:

Brianne Blackburn

Stoney J. Wright

THE STATE of ALASKA
GOVERNOR SEAN PARNELL

Department of Natural Resources

DIVISION OF AGRICULTURE
Plant Materials Center

5310 S. Bodenburg Spur
Palmer, Alaska 99645-7646
Main: 907.745.4469
Fax: 907.746-1568

September 10, 2013

University of Alaska Anchorage
Project Management Department
University Center, Rm 155
3901 Old Seward Highway
Anchorage, AK 99503

Attn: Ms. LuAnn Piccard

Re: Brianne Blackburn PM686 Project Support

Dear Ms. Piccard

The purpose of this letter is to express my support for Brianne Blackburn's final MSPM project to develop a model for prioritizing invasive plant management within DNR, Division of Agriculture. The development of such a tool would allow for a more objective process that can inform our regulatory decisions.

As a state agency, our need for effective communication of our agency goals and regulations to our stakeholders is a high priority. Brianne's work will address this need and will serve to further develop the Invasive Plant Program's processes and methodologies.

Please feel free to contact me at any time regarding Brianne's project with the Division of Agriculture.

Sincerely,

Stoney Wright

Stoney J. Wright
Manager

Project Scope Statement

Information

Project Name :	Development of a Methodology for the Prioritization of Invasive Plant Management in Alaska
Project Manager:	Brianne Blackburn, Invasive Plant Program Coordinator
Project Sponsor:	Stoney Wright, Manager- Alaska Plant Materials Center
Prepared By:	Brianne Blackburn

Revision History:

Date	Author	Description of Change
04 Oct 2013	Brianne Blackburn	Original

Objective

To develop a model and protocol for the utilization of risk-based criteria to guide prioritization of invasive plant management for the Department of Natural Resources, Division of Agriculture.

Deliverables

- A risk-based set of criteria (model) to evaluate invasive plants based on agency priority
- A protocol for executing the risk-based model
- Project Progress Milestone Reports (4 over the course of semester)
- Project Management Plan
- IRB approval for research approach for project
- 30 minute oral defense

Milestones

- Project Progress Milestone #1 Complete-Sept 13th, 2013
- Project Progress Milestone #2 Complete-Oct 4th, 2013
- Project Progress Milestone #3 Complete-Oct 25th, 2013
- Project Progress Milestone #4 Complete-Nov 22nd, 2013
- Project Management Plan Complete-Dec 9th, 2013
- Survey data collected from primary stakeholders-February 1st, 2014
- Development of draft criteria-March 1st, 2014
- Final criteria/protocol developed- April 15th, 2014

Exclusions

- Agency implementation of protocol

Assumptions

- Continued agency support for project

- Stakeholder/SME will participate in a timely manner with information gathering

Constraints

- Project completed by May 2014
- Stakeholder/SME availability limited-

Requirements Traceability Matrix

Project Title: Development of a Methodology for the Prioritization of Invasive Plant Management in a Regulatory Environment

Project Manager: Brianne Blackburn

Requirement Information					Relationship Traceability		
ID	Requirement	Priority	Category	Source	WBS	Acceptance Criteria	Owner
1	Key stakeholder input in development of criteria	High	Develop Model	Div of Ag, Manager, Stakeholders	1.2.1	Criteria reflects highest stakeholder priorities as identified in survey responses	BB
2	Transparency of agency goals-communication of process	High	Project Mgmt	Stakeholders, SME	1.1.8	Communication of project and agency goals and progress	BB
3	Communication-internal	High	Project Mgmt	DNR, Div of Ag	1.1.7	Monthly progress report	BB
4	Ensure model/protocol fit within existing regulatory processes	Med	Develop Protocol	Div of Ag Inspection Prgoram	1.3.3	Model output (prioritization) can be utilized in regulatory process	BB
5	Prioritize invasive plant management	High	Develop Model	Div of Ag, DNR, Stakeholders	1.2,1.3,1.4	Model output is invasive plant management priorities	BB
6	Develop project to meet academic requirements	High	Project Mgmt	UAA advisory committee	1.1.1,1.1.2, 1.1.3, 1.1.4, 1.1.5,1.1.6	Develop PMP and execute project	BB

Stakeholder Register

Project: Development of a Methodology for the Prioritization of Invasive Plant Management in a Regulatory Environment

	Identification Information		Assessment Information (Their project requirements and expectations)			Communication (How they like to be communicated with)		
	Organization	Role	Major requirements	Expectations	Primary Concerns	Mode	Frequecncy	Level of detail
Internal Stakeholders (internal to performing organization)								
Director	Division of Ag	Support	Communication	Stakeholder satisfaction	PR, risk management	Email, phone	Weekly	High level
Deputy Commissioner	DNR	Support	Communication	Stakeholder satisfaction	PR	Email-through assistant	Monthly	Very high level
Manager	Division of Ag	Sponsor	Project Success	On-time, engagement of stakeholders	Risk management	In-person, email	Weekly	Detailed
Inspection Staff	Division of Ag	Support	Communication	Methods will fit with current regulatory process	Methods will fit with current regulatory process	Email, group	as needed	as it pertains to inspection
AG	DNR	Support	Communication	Regulatory needs are met	Regulatory needs are met	Email	As needed	as it pertains to legal language
External Stakeholders (external to performing organization)								
UAA MSPM Advisory Committee		Advising				Email, in person	as needed	on project planning
Agricultural Industry		Contributor	Process protects agricultural community	Communication, input in process, project updates	TBD	TBD	TBD	TBD

Stakeholder Register

Project:	Development of a Methodology for the Prioritization of Invasive Plant Management in a Regulatory Environment

	Identification Information		Assessment Information (Their project requirements and expectations)			Communication (How they like to be communicated with)		
	Organization	Role	Major requirements	Expectations	Primary Concerns	Mode	Frequecncy	Level of detail
Horticultural Industry		Contributor	Protection of horticultural industry	Communication, input in process, project updates	respect industry rights	TBD	TBD	TBD
Soil & Water Conservationd Districts		Contributor	Process protects agricultural community	Communication, input in process, project updates	TBD	TBD	TBD	TBD
Cooperative Weed Management Areas		Contributor	Clarify goals and objectives for statewide mgmt of invasive plants	Communication, input in process, project updates	TBD	TBD	TBD	TBD
UAF Cooperative Extesion Service		Contributor	Clarify goals and objectives for statewide mgmt of invasive plants	Communication, input in process, project updates	TBD	TBD	TBD	TBD
BLM		Contributor	Clarify goals and objectives for statewide mgmt of invasive plants	Communication, input in process, project updates	TBD	TBD	TBD	TBD
US Forest Service		Contributor	Clarify goals and objectives for statewide mgmt of invasive plants	Communication, input in process, project updates	TBD	TBD	TBD	TBD
National Parks Service		Contributor	Clarify goals and objectives for statewide mgmt of invasive plants	Communication, input in process, project updates	TBD	TBD	TBD	TBD

Stakeholder Register

Project:	Development of a Methodology for the Prioritization of Invasive Plant Management in a Regulatory Environment

	Identification Information		Assessment Information (Their project requirements and expectations)			Communication (How they like to be communicated with)		
	Organization	Role	Major requirements	Expectations	Primary Concerns	Mode	Frequecncy	Level of detail
ADF&G		Contributor	Clarify goals and objectives for statewide mgmt of invasive plants	Communication, input in process, project updates	TBD	TBD	TBD	TBD
DOT		Contributor	Clarify goals and objectives for statewide mgmt of invasive plants	Communication, input in process, project updates	TBD	TBD	TBD	TBD
Outside state's noxious weed boards		Contributor	TBD	TBD	TBD	TBD	TBD	TBD

Stakeholder Prioritization

Project: Development of a Methodology for the Prioritization of Invasive Plant Management in Alaska

Identification Information		Prioritization					Categorization
Internal Stakeholders (internal to performing organization)	Role	**Power (1-4)**	**Proximity (1-4)**	**Urgency: Value (1-5)**	**Urgency: Action (1-5)**	**Index**	
Director	Support	4	2	2	2	10	
Deputy Commissioner	Support	4	1	2	2	9	Internal administration
Manager	Sponsor	3	2	3	1	9	
Inspection Staff	Support	1	2	2	1	6	
AG	Support	4	1	2	1	8	Internal administration
External Stakeholders (external to performing organization)							
UAA MSPM Advisory Committee	Advising	4	3	3	3	13	Academic Program
Agricultural Industry	Contributor	2	2	2	2	8	
Horticultural Industry	Contributor	2	2	2	2	8	
Soil & Water Conservationd Districts	Contributor	2	2	2	2	8	
Cooperative Weed Management Areas	Contributor	2	2	2	2	8	
UAF Cooperative Extesion Service	Contributor	2	2	2	2	8	External Contributors contributors
BLM	Contributor	2	2	2	2	8	
US Forest Service	Contributor	2	2	2	2	8	
National Parks Service	Contributor	2	2	2	2	8	
ADF&G	Contributor	2	2	2	2	8	
DOT	Contributor	2	2	2	2	8	
Outside state's noxious weed boards	Contributor	2	2	2	2	8	

Change Log

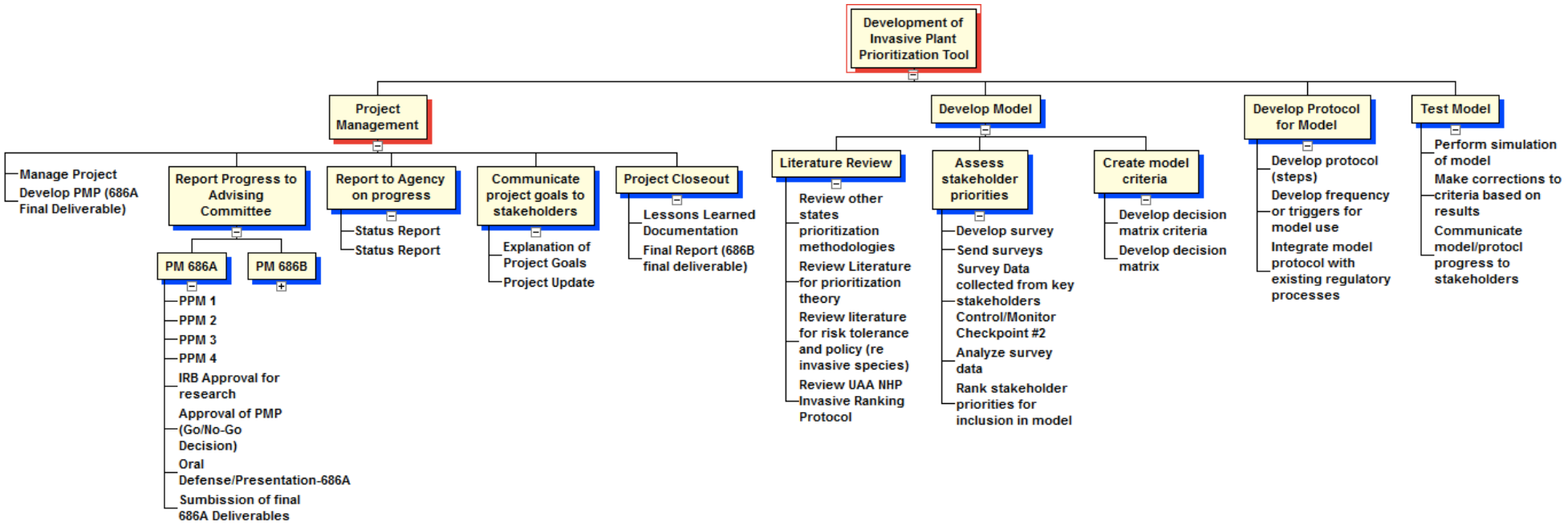
Project Title: Development of a Methodology for the Prioritization of Invasive Plant Management in Alaska

Project Manager: Brianne Blackburn

ID	Category	Descirption of Change	Submitted By	Date Submitted	Status
1	Scope	Remove final, comprehensive testing of produt through simulation from scope due to risk occurrence which lead to time constraint. This action was a documented risk response which was implemented when trigger was percieved (trigger=tasks delayed)	PM	4/11/14	Approved
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					

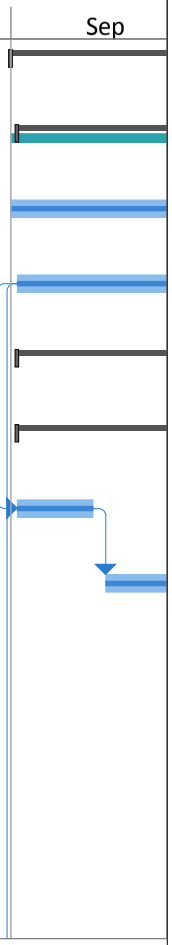
Risk Register											
Project Title: Development of a Methodology for the Prioritization of Invasive Plant Management in Alaska											
Project Manager: Brianne Blackburn											
ID	**Risk Name**	**Description of Risk**	**Potential to reoccur**	**Linked to Scheduled Tasks**	**Likelihood** (1-not likely, 3- likely, 5-very likely)	**Impact** (1-negligible, 3-Marginal, 5-Significant)	**Exposure (L X I)** 1-6 = Low, 7-12 = Mod, 12+ = High	Did Risk Occur	**Mitigation**	**Response**	**Notes**
7	Missing stakeholder ID	Some stakeholders were not aware of efforts and therefore their input was not received	Yes	All	3	3	9	yes	Was not identified to plan for mitigation efforts, initially. Since re-occurance is possible, notes have been made to make use of listserv that would access these stakeholders.	Individually meet and discuss project with those that were missed and have expressed interest. Invite them to have input in the remaining tasks that involve SME	
6	PM Productivity Decrease	Outside priorities impact the PMs ability to dedicate the scheduled time	Yes	All	3	5	15	yes (2)	Was not identified to plan for mitigation efforts, initially. Since re-occurance is possible, reduce coursework to allow buffer for other priorities in second semester; Identify areas for potential re-scoping to still meet project needs	Adjust schedule/scope to meet primary objectives-or-defer coursework to next available semester	This risk's occurance has led to current delay. Reduce time for survey response collection to remain on schedule.
1.5	Stakeholder Engagement_ planning	Lack of stakeholder involvement during planning will delay development of project deliverables	Yes	Planning project goals & objectives, creating criteria & protocol	3	3	9	Yes	Was not identified to plan for mitigation efforts	Accept: was able to shift planning activities that involved external stakeholders until later in process. No significant impact for this occurrence	Government shut down
2	Stakeholder Priorities	SME Stakeholder priorities unclear	No		2	3	6		Mitigate: develop standardized survey		
3	Agency support	On-going regulatory process shifts agency priorities	Yes		4	2	8	Yes	Accept	Shift project away from dependence on agency action	Parallel regulation process put on hold for further review
5	Go/No-go Approval	Committee Approval	Yes		1	5	5		Mitigation:Ensure deliverables submitted on time and of high quality	Accept: Defer to next available semester	
1	Stakeholder Engagement_ Survey	Lack of stakeholder engagement will limit responses to surveys			3	5	15	No	Mitigate: continual stakeholder engagement-emphasis on communication/stakeholder plan		Met (and exceeded) minimum success criteria
4	IRB Approval	Project IRB application not received by 11/22			3	3	9	No	Stay in close contact with IRB coordinator		

Risk Realizaton Matrix				
Project Title: Development of a Methodology for the Prioritization of Invasive Plant Management in Alaska				
Project Manager: Brianne Blackburn				
Description of Risk	**Planned or Unplanned?**	**Mitigation**	**Response**	**Impact**
Some stakeholders were not aware of efforts and therefore their input was not received	Unpanned	Was not identified to plan for mitigation efforts, initially. Since re-occurance is possible, notes have been made to make use of listserv that would access	Individually meet and discuss project with those that were missed and have expressed interest. Invite them to have input in the remaining tasks	Re-work to incorporate missed input. 1 day
Outside priorities impact the PMs ability to dedicate the scheduled time	Unplanned	Was not identified to plan for mitigation efforts, initially. Since re-occurance is possible, reduce coursework to allow buffer for other priorities in second semester; Identify areas for potential re-scoping to still meet project needs	Adjust schedule/scope to meet primary objectives-or-defer coursework to next available semester	Schedule delays-remove items from scope
Lack of stakeholder involvement during planning will delay development of project deliverables	Planned	Was not identified to plan for mitigation efforts	Accept: was able to shift planning activities that involved external stakeholders until later in process. No significant impact for this occurrence	Rework
On-going regulatory process shifts agency priorities	Planned	Limit these items from scope	Fully remove regulatory aspec	Minor language changes-rewor


Development of Invasive Plant Prioritization Tool
Project Management
Manage Project
Develop PMP (686A Final Deliverable)
Report Progress to Advising Committee
PM 686A
PPM 1
PPM 2
PPM 3
PPM 4
IRB Approval for research
Approval of PMP (Go/No-Go Decision)
Oral Defense/Presentation-686A
Sumbission of final 686A Deliverables
PM 686B
Report to Agency on progress
Status Report
Status Report
Communicate project goals to stakeholders
Explanation of Project Goals
Project Update
Project Closeout
Lessons Learned Documentation
Final Report (686B final deliverable)
Develop Model
Literature Review
Review other states prioritization methodologies
Review Literature for prioritization theory
Review literature for risk tolerance and policy (re invasive species)
Review UAA NHP Invasive Ranking Protocol
Assess stakeholder priorities
Develop survey
Send surveys
Survey Data collected from key stakeholders
Control/Monitor Checkpoint #2
Analyze survey data
Rank stakeholder priorities for inclusion in model
Create model criteria
Develop decision matrix criteria
Develop decision matrix
Develop Protocol for Model
Develop protocol (steps)
Develop frequency or triggers for model use
Integrate model protocol with existing regulatory processes
Test Model
Perform simulation of model
Make corrections to criteria based on results
Communicate model/protocl progress to stakeholders

Blackburn-Development of Invasive Plant Management Prioritization Methodology

ID	WBS	Task Mode	Task Name	Duration	Actual Work	% Complete	Start
1	**1**		**Development of Invasive Plant Prioritization Too**	**169 days**	**4,540 hrs**	**100%**	**Sun 9/1/13**
2	**1.1**		**Project Management**	**169 days**	**3,676 hrs**	**100%**	**Mon 9/2/13**
3	1.1.1		Manage Project	169 days?	1,352 hrs	100%	Sun 9/1/13
4	1.1.2		Develop PMP (686A Final Deliverable)	3 mons	480 hrs	100%	Mon 9/2/13
5	**1.1.3**		**Report Progress to Advising Committee**	**165 days**	**1,156 hrs**	**100%**	**Mon 9/2/13**
6	**1.1.3.1**		**PM 686A**	**70 days**	**676 hrs**	**100%**	**Mon 9/2/13**
7	1.1.3.1.		PPM 1	2 wks	80 hrs	100%	Mon 9/2/13
8	1.1.3.1.		PPM 2	3 wks	120 hrs	100%	Mon 9/16/13
9	1.1.3.1.		PPM 3	3 wks	120 hrs	100%	Mon 10/7/13
10	1.1.3.1.		PPM 4	4.3 wks	172 hrs	100%	Mon 10/28/1
11	1.1.3.1.		IRB Approval for research	23 days	184 hrs	100%	Mon 10/7/13
12	1.1.3.1.		Approval of PMP (Go/No-Go Decision)	0 days	0 hrs	100%	Mon 11/25/1

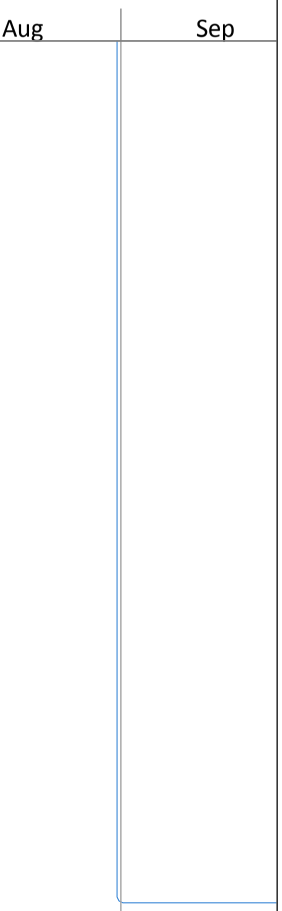


Project: Blackburn_Development
Date: Wed 4/23/14
PM 686A

Task		Inactive Task		Start-only	
Split		Inactive Milestone		Finish-only	
Milestone		Inactive Summary		Deadline	
Summary		Manual Task		Progress	
Project Summary		Duration-only		Manual Progress	
External Tasks		Manual Summary Rollup			
External Milestone		Manual Summary			

Blackburn-Development of Invasive Plant Management Prioritization Methodology

ID	WBS	Task Mode	Task Name	Duration	Actual Work	% Complete	Start
13	1.1.3.1.		Oral Defense/Presentation-686A	0 days	0 hrs	100%	Tue 12/3/13
14	1.1.3.1.		Sumbission of final 686A Deliverables	0 days	0 hrs	100%	Mon 12/9/13
15	**1.1.3.2**		**PM 686B**	**94 days**	**480 hrs**	**100%**	**Tue 12/10/13**
16	1.1.3.2.		PPM 1	2 wks	80 hrs	100%	Mon 1/27/14
17	1.1.3.2.		PPM 2	3 wks	120 hrs	100%	Mon 2/10/14
18	1.1.3.2.		PPM 3	3 wks	120 hrs	100%	Mon 3/3/14
19	1.1.3.2.		PPM 4	4 wks	160 hrs	100%	Mon 3/24/14
20	1.1.3.2.		Oral Defense/Presentation-686B	0 days	0 hrs	100%	Mon 4/21/14
21	1.1.3.2.		Submission of final 686B Deliverables	0 days	0 hrs	100%	Mon 4/28/14
22	1.1.3.2.		Transition from PM 686A to 686B-Control/Monitor Checkpoint #1	0 days	0 hrs	100%	Tue 12/10/13
23	**1.1.4**		**Report to Agency on progress**	**31 days**	**16 hrs**	**100%**	**Mon 10/14/1**
24	1.1.4.1		Status Report	1 day	8 hrs	100%	Mon 10/14/1



Project: Blackburn_Development
Date: Wed 4/23/14
PM 686A

Task	Inactive Task	Start-only	
Split	Inactive Milestone	Finish-only	
Milestone	Inactive Summary	Deadline	
Summary	Manual Task	Progress	
Project Summary	Duration-only	Manual Progress	
External Tasks	Manual Summary Rollup		
External Milestone	Manual Summary		

Blackburn-Development of Invasive Plant Management Prioritization Methodology

ID	WBS	Task Mode	Task Name	Duration	Actual Work	% Complete	Start
25	1.1.4.2		Status Report	1 day	8 hrs	100%	Mon 11/25/1
26	**1.1.5**		**Communicate project goals to stakeholders**	**58 days**	**16 hrs**	**100%**	**Mon 12/9/13**
27	1.1.5.1		Explanation of Project Goals	1 day	8 hrs	100%	Mon 12/9/13
28	1.1.5.2		Project Update	1 day	8 hrs	100%	Wed 3/5/14
29	**1.1.6**		**Project Closeout**	**80 days**	**656 hrs**	**100%**	**Wed 1/1/14**
30	1.1.6.1		Lessons Learned Documentation	2 days	16 hrs	100%	Mon 4/14/14
31	1.1.6.2		Final Report (686B final deliverable)	4 mons	640 hrs	100%	Wed 1/1/14
32	**1.2**		**Develop Model**	**68 days**	**696 hrs**	**100%**	**Mon 12/2/13**
33	**1.2.1**		**Literature Review**	**10 days**	**240 hrs**	**100%**	**Mon 12/2/13**
34	1.2.1.1		Review other states prioritization methodologies	2 wks	80 hrs	100%	Mon 12/2/13
35	1.2.1.2		Review Literature for prioritization theory	1 wk	40 hrs	100%	Mon 12/2/13
36	1.2.1.3		Review literature for risk tolerance and policy (re invasive species)	2 wks	80 hrs	100%	Mon 12/2/13

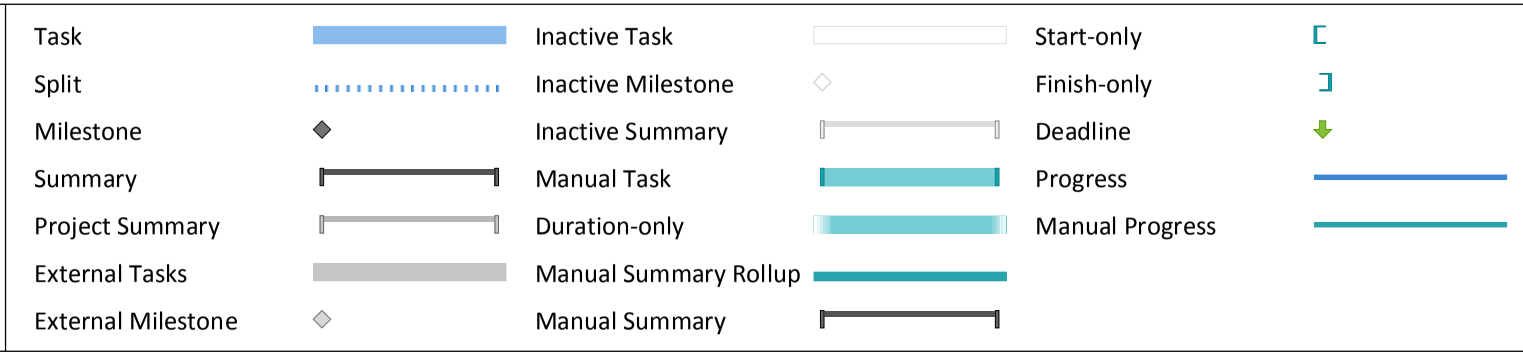
Aug | Sep

Project: Blackburn_Development
Date: Wed 4/23/14
PM 686A

Task		Inactive Task		Start-only	
Split		Inactive Milestone		Finish-only	
Milestone		Inactive Summary		Deadline	
Summary		Manual Task		Progress	
Project Summary		Duration-only		Manual Progress	
External Tasks		Manual Summary Rollup			
External Milestone		Manual Summary			

Blackburn-Development of Invasive Plant Management Prioritization Methodology

ID	WBS	Task Mode	Task Name	Duration	Actual Work	% Complete	Start
37	1.2.1.4		Review UAA NHP Invasive Ranking Protoc	1 wk	40 hrs	100%	Mon 12/2/13
38	**1.2.2**		**Assess stakeholder priorities**	**47 days**	**296 hrs**	**100%**	**Tue 12/3/13**
39	1.2.2.1		Develop survey	3 wks	120 hrs	100%	Tue 12/3/13
40	1.2.2.2		Send surveys	2 days	16 hrs	100%	Tue 12/31/13
41	1.2.2.3		Survey Data collected from key stakeholders Control/Monitor	0 days	0 hrs	100%	Fri 1/31/14
42	1.2.2.4		Analyze survey data	2 wks	80 hrs	100%	Thu 1/16/14
43	1.2.2.5		Rank stakeholder priorities for inclusion in model	2 wks	80 hrs	100%	Thu 1/30/14
44	**1.2.3**		**Create model criteria**	**20 days**	**160 hrs**	**100%**	**Thu 2/13/14**
45	1.2.3.1		Develop decision matrix criteria	3 wks	120 hrs	100%	Thu 2/13/14
46	1.2.3.2		Develop decision matrix	5 days	40 hrs	100%	Thu 3/6/14
47	**1.3**		**Develop Protocol for Model**	**20 days**	**168 hrs**	**100%**	**Thu 3/13/14**
48	1.3.1		Develop protocol (steps)	3 wks	120 hrs	100%	Thu 3/13/14



Project: Blackburn_Development
Date: Wed 4/23/14
PM 686A

Blackburn-Development of Invasive Plant Management Prioritization Methodology

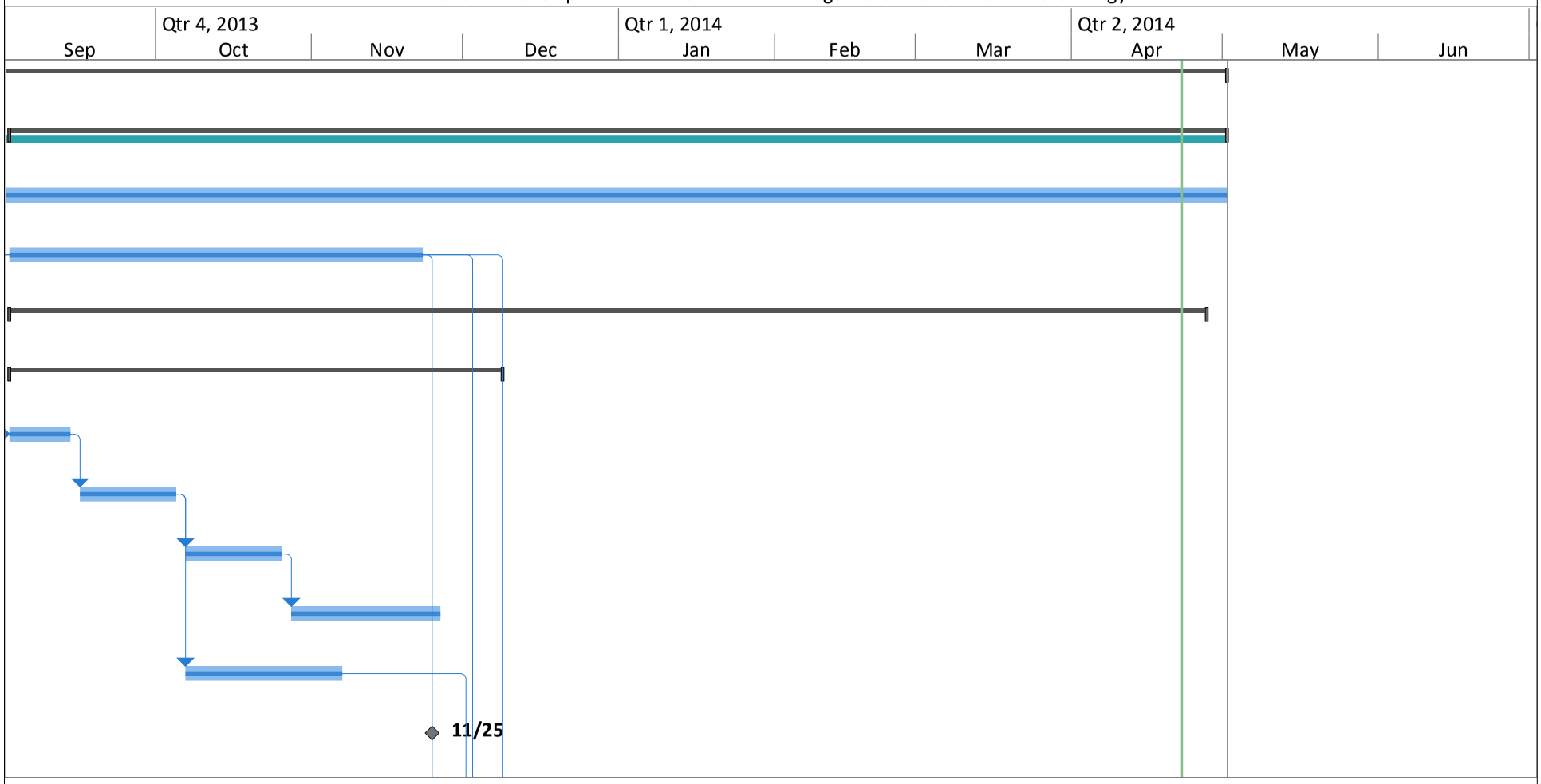
ID		WBS	Task Mode	Task Name	Duration	Actual Work	% Complete	Start
49	✓	1.3.2		Develop frequency or triggers for model use	1 day	8 hrs	100%	Thu 3/13/14
50	✓	1.3.3		Integrate model protocol with existing regulatory processes	5 days	40 hrs	100%	Thu 4/3/14
51		~~1.4~~		~~Test Model~~	~~8 days~~	~~0 hrs~~	~~0%~~	~~Thu 4/3/14~~
52		~~1.4.1~~		~~Perform simulation of model~~	~~2 days~~	~~0 hrs~~	~~0%~~	~~Thu 4/3/14~~
53		~~1.4.2~~		~~Make corrections to criteria based on results~~	~~5 days~~	~~0 hrs~~	~~0%~~	~~Mon 4/7/14~~
54		~~1.4.3~~		~~Communicate model/protocl progress to stakeholders~~	~~1 day~~	~~0 hrs~~	~~0%~~	~~Mon 4/14/14~~

Aug | Sep

Project: Blackburn_Development
Date: Wed 4/23/14
PM 686A

Task		Inactive Task		Start-only	
Split		Inactive Milestone		Finish-only	
Milestone		Inactive Summary		Deadline	
Summary		Manual Task		Progress	
Project Summary		Duration-only		Manual Progress	
External Tasks		Manual Summary Rollup			
External Milestone		Manual Summary			

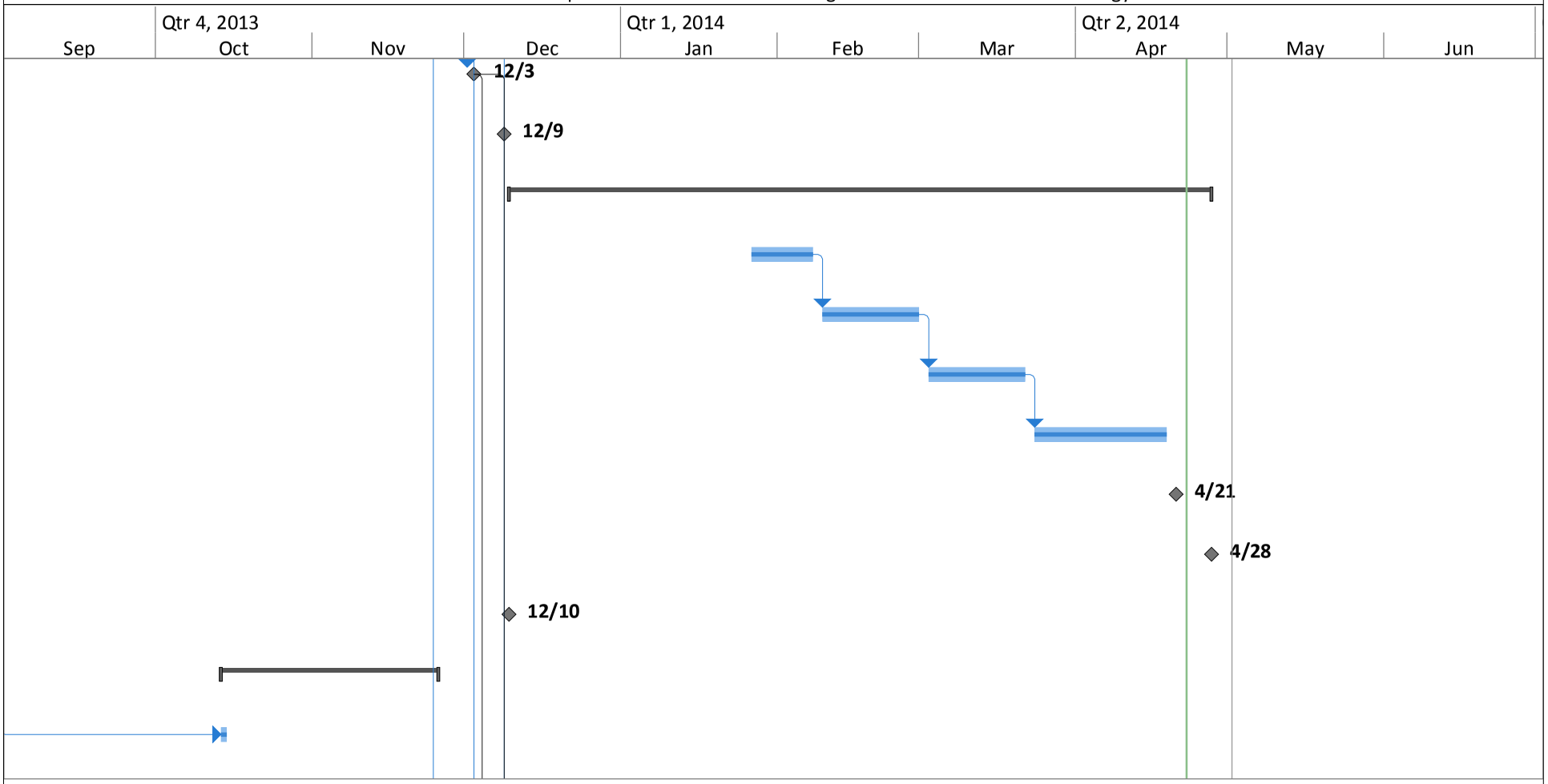
Blackburn-Development of Invasive Plant Management Prioritization Methodology



Project: Blackburn_Development
Date: Wed 4/23/14
PM 686A

Task		Inactive Task		Start-only	
Split		Inactive Milestone		Finish-only	
Milestone		Inactive Summary		Deadline	
Summary		Manual Task		Progress	
Project Summary		Duration-only		Manual Progress	
External Tasks		Manual Summary Rollup			
External Milestone		Manual Summary			

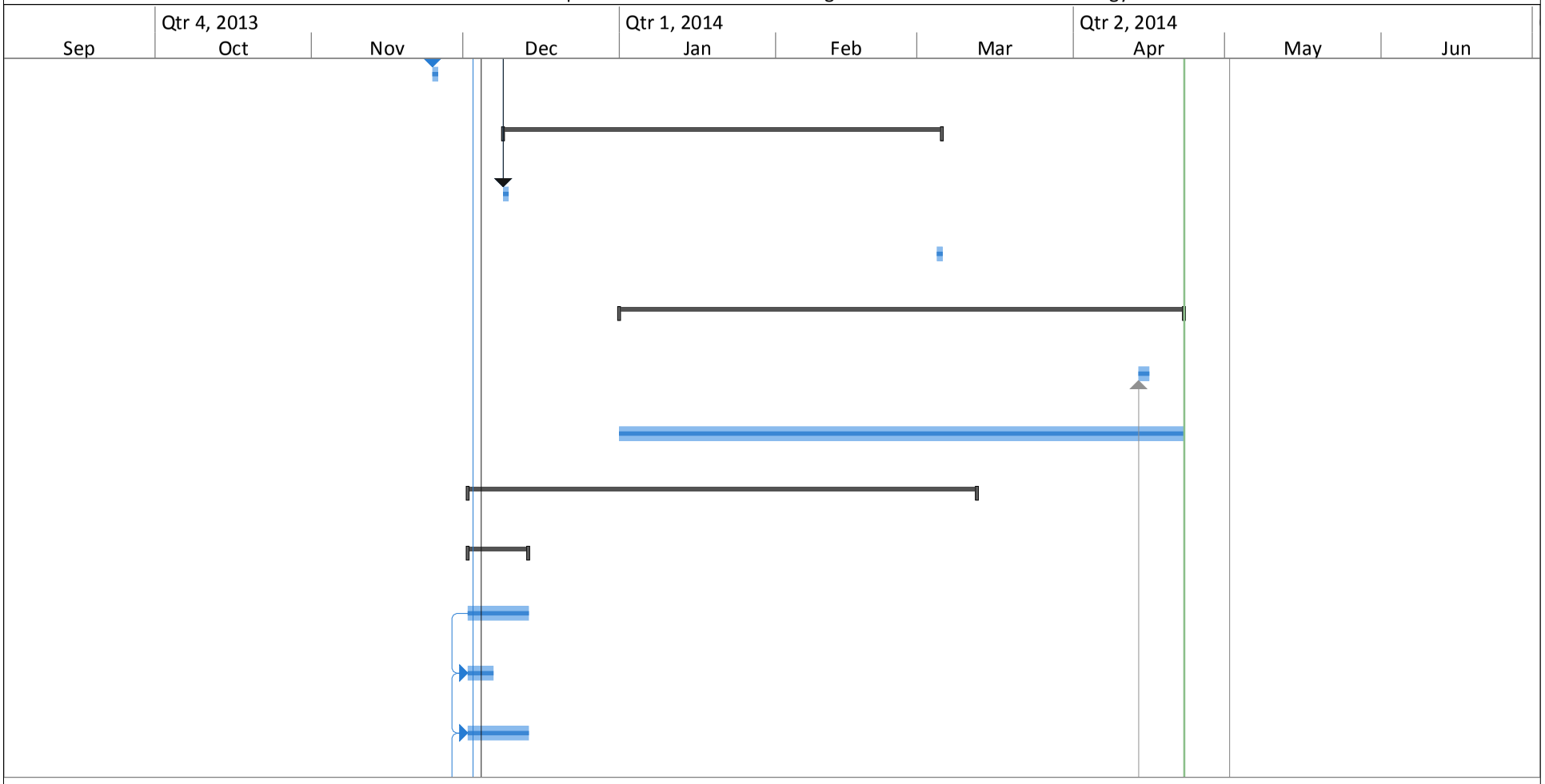
Blackburn-Development of Invasive Plant Management Prioritization Methodology



Project: Blackburn_Development
Date: Wed 4/23/14
PM 686A

Task	Inactive Task	Start-only
Split	Inactive Milestone	Finish-only
Milestone	Inactive Summary	Deadline
Summary	Manual Task	Progress
Project Summary	Duration-only	Manual Progress
External Tasks	Manual Summary Rollup	
External Milestone	Manual Summary	

Blackburn-Development of Invasive Plant Management Prioritization Methodology



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Date: Wed 4/23/14
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Task	Inactive Task	Start-only
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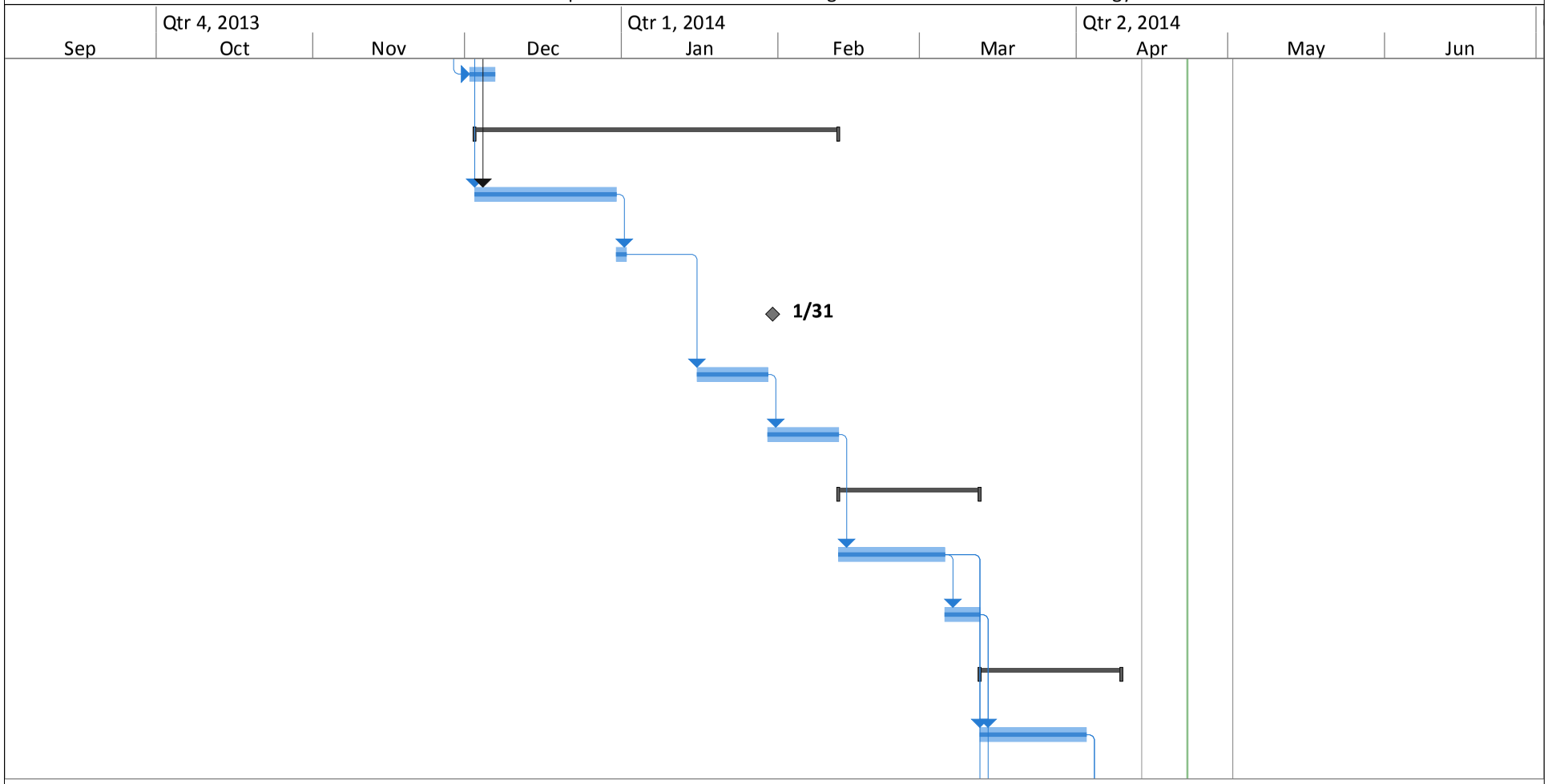
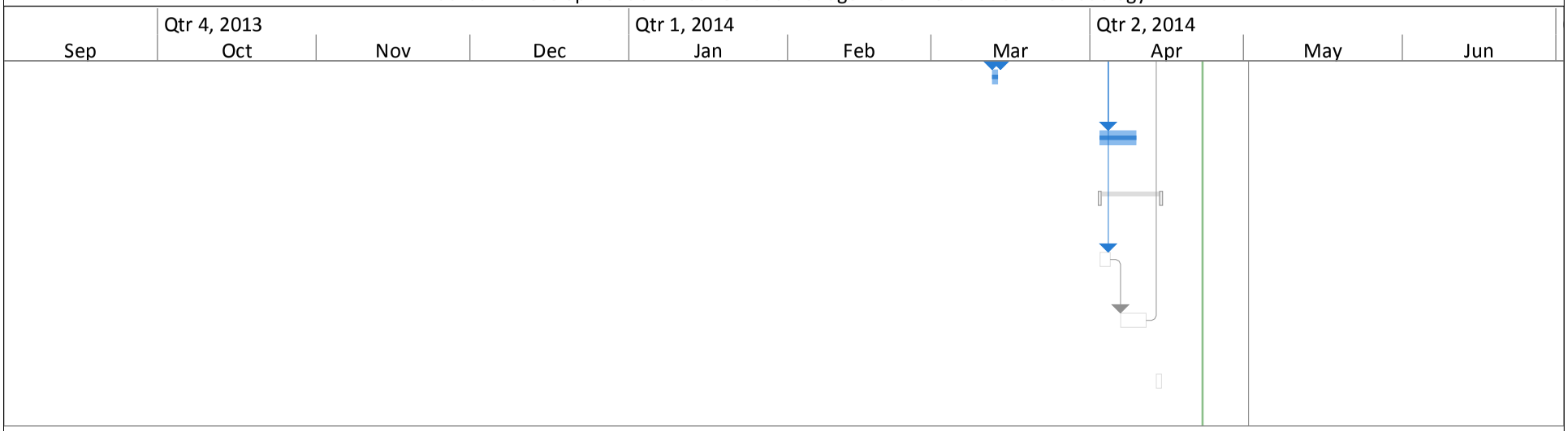
Blackburn-Development of Invasive Plant Management Prioritization Methodology



Project: Blackburn_Development
Date: Wed 4/23/14
PM 686A

Task		Inactive Task		Start-only	
Split		Inactive Milestone		Finish-only	
Milestone		Inactive Summary		Deadline	
Summary		Manual Task		Progress	
Project Summary		Duration-only		Manual Progress	
External Tasks		Manual Summary Rollup			
External Milestone		Manual Summary			

Blackburn-Development of Invasive Plant Management Prioritization Methodology



Project: Blackburn_Development
Date: Wed 4/23/14
PM 686A

Task		Inactive Task		Start-only	
Split		Inactive Milestone		Finish-only	
Milestone		Inactive Summary		Deadline	
Summary		Manual Task		Progress	
Project Summary		Duration-only		Manual Progress	
External Tasks		Manual Summary Rollup			
External Milestone		Manual Summary			

UNIVERSITY of ALASKA ANCHORAGE

INSTITUTIONAL REVIEW BOARD
PROPOSAL FORM

Do not change the text in the shaded areas of the form. Your responses to each question/section should be written where it says <<Overwrite Here>>; please keep your response in the same blue 10 pt Arial font.

1. APPLICATION INFORMATION

Title of Proposal	Development of a Methodology for Prioritizing Invasive Plant Management
Principal Investigator(s) and Degree(s)	Brianne Blackburn, MS student
Principal Investigator(s) UAA Department	Brianne Blackburn, UAA Engineering Project Management
PI(s) UAA phone number	NA
PI(s) Home or cell phone number	(907) 982-7679
Other Project Personnel and Contact Information	LuAnn Picard, Advisor

Date Submitted	November 7, 2013
Proposed Start Date	November 20, 2013
Anticipated Completion Date	May 2014

Indicate which review category for our application by placing an "X" in the first column on the left. See the IRBNet Library for the IRB Review Categories document. Note that the final determination of review category is made by the IRB Chair.

	Review Requested	Explanation (if needed)
X	Exempt	Information collected will not be personally identifiable
	Expedited	
	Full Review	

X	Place an "X" in the left column to indicate that you have included Certificates of IRB Training for all PIs and Researchers. Please attach the certificates separately.

PRINCIPAL INVESTIGATOR ASSURANCE STATEMENT

By submitting this protocol application and signing the IRBNet package electronically, I certify that the information provided is true and complete. I agree to and will comply with the following statements:

1. I will abide by all regulations, policies and procedures applcable to research involving human subjects.
2. I will accept responsibility for the scientific and ethical conduct of this research.
3. I will accept responsibility for providing personnel (collaborators, staff, graduate students, undergraduate students, and volunteers) with the appropriate training and mentoring to conduct their duties as part of this research.
4. If this IRB Protocol Application is for student research, I certify that the student's graduate advisory committee has reviewed and approved this research protocol.

5. I will obtain approval from the IRB prior to amending or altering the research protocol, consent/assent forms or initiating further correspondence with the research subjects.
6. I will report immediately to the Office of Research Compliance (907-786-1099) any complaints from participants or others, any adverse events associated with research participation, and/or any unanticipated problems or issues related to this study.
7. I will comply in a timely manner with requests of the IRB regarding Continuing/Final Review.

I realize that failure to comply with the above provisions may result in suspension or termination of this project by the IRB and, if appropriate, restricted access to funding and notification of sponsor, and referral to the appropriate UAA administrative official(s) for disciplinary action.

2. FUNDING INFORMATION

Funding Type	Brief Description
Have you applied for external funding?	No If yes, include a copy of the funding proposal in the IRBNet package.
If yes, list the Agency	
Proposal Number	
Have you applied for internal funding?	No

3. PROJECT CLASSIFICATION

Type of Project	Brief Description
Faculty Research	
Doctoral or Master's Student – Thesis Research*	Advisor: LuAnn Picard, UAA School of Engineering, Project Management, lpiccard2@uaa.alaska.edu, (907) 786-1917, UC 155
Doctoral or Master's Student – Other Research*	
Undergraduate Student – Thesis Research*	
Undergraduate Student – Other Research*	
Other	

* In the brief description, provide the Research Supervisor's name, UAA department, and contact information.

4. OTHER HUMAN SUBJECT REVIEW INFORMATION

Information	Response (if applicable)
Is this proposal being reviewed by another ethics committee?	No
Name of Committee	
Institution	
Contact Person	
Email Address	
Phone Number	

Place an "X" in the first column to indicate the status of review of this project by another ethics committee.

	Review Status	Explanation (if required)
	Application has not been submitted.	NA
	Application is currently under review.	NA
	Application has been approved.	NA Please include a copy of the approval document in the IRBNet package.
	Other	

5. ABSTRACT

Explain the research project in **lay language** that can be easily understood by someone who is not an expert in your field. The abstract must include: 1) A brief summary of the research question; and 2) a brief description of the procedure.
Maximum 150 words.

The goal of this project is to develop a model to assist in the prioritization of invasive plant management within the Department of Natural Resources, Division of Agriculture (DOA). The development of such a tool will allow for a more objective process that can inform our regulatory decisions and more clearly communicate our goals and priorities to stakeholders. This model will consist of a set of criteria and a protocol for running the model.

The development of this model will involve researching methods used in other states' regulatory processes, surveying subject matter experts and land management agencies regarding their current priorities and tolerances for invasive plants, and ultimately creating a matrix of risk-based criteria that can be used to guide decisions to prioritize invasive plant for management in Alaska.

6. BRIEF RATIONALE AND OBJECTIVES

Maximum 500 words for all three responses.

Required Information	
Rationale for study grounded in peer reviewed literature in your discipline:	
The concept of organizational project maturity identifies a correlation between an organizations capability in project, program and portfolio management and it's effectiveness in implementing strategy. An organization's development of standardized processes is one step towards project maturity.	
State your research question and hypotheses	How are clear, objective processes created to address invasive plant management in Alaska? Through surveys and interviews with subject matter expert's criteria can be developed into a tool that can guide decisions to prioritize invasive plant management in Alaska.
Explain your research	This project will begin with a review of both the literature and other states' processes. From here, a survey and interview questions will be

design/approach (e.g., quantitative, qualitative, experimental, survey, focus group, etc.). If applicable, respond to the following questions: a) How many groups are you collecting data from? b) Is there random assignment to the groups? c) Is there an experimental manipulation? If yes, explain why. A description of the stimulus or the manipulation can be explained in the summary of procedures.	developed to elicit key stakeholder's and subject matter expert priorities and risk tolerances for invasive species management for their agency or organization. The results from this data will be ranked or prioritized and incorporated into the development of criteria to be used in tool (model) for invasive plant management prioritization. a) Data will be collected from state and federal land management agencies, and other partner organizations that manage invasive species issues in Alaska. b) The groups will be selected based on their involvement with invasive plant management c) No experimental manipulation

7. RESEARCH METHODOLOGY

DETAILED DESCRIPTION OF PROCEDURES

Required Information	
Provide a brief summary of procedures in **lay language** (no more than 500 words): a) **Contextual research:** Literature review of other invasive species prioritization methodologies b) **Data gathering:** Surveys and interviews will be performed to gather data about subject matter expert priorities and risk tolerances for invasive plant management for their agency or organization c) **Data analysis:** Responses will be analyzed for trends	
Description of the location where the research will be conducted	Surveys will be distributed and collected online. If not a UAA location, authorization allowing this research to be conducted at that location must be included in your IRBNet package.

RESEARCH METHODS AND TOOLS

Check all that apply with an "X". Include in your IRBNet package all questionnaire(s), interview guides, and focus group questions.

	Data Collection Methods or Instruments
X	Questionnaires
X	Interviews
	Observations
	Focus Groups
	Archival Data/Records Review: If your project utilizes academic, medical, or other records, please describe the data, provide documentation of official permission allowing you access to the data in your IRBNet package.
	Apparatus/Measuring Equipment or Device

Archival Data/Records Review	Response (if applicable)
If you are utilizing archival or existing data, indicate the dates the data were collected. These data must exist at the time of your IRBNet submission.	NA If the data are from a survey or questionnaire, provide a copy of the original instrument and a copy of the consent form in your IRBNet package. If the data records are from an experiment, provide a detailed description of the manipulation and measures and a copy of the consent form.
If the data are records based (e.g., medical records, legal documents), provide a list of the variables being extracted from the data.	NA
If consent form is not available or if consent was not needed for the original data collection, please provide a brief explanation.	NA

8. SUBJECT SELECTION AND RECRUITMENT:

Required Information	Response
a. Maximum number of research participants and a brief rationale for that number	50. Participation is limited to due to project timeline and availability of Subject Matter Experts.
b. Description of participants, rationale for their participation, and inclusion criteria. (Indicate age range, gender, cultural background or if specific populations will be chosen, e.g., prisoners, pregnant women, Alaska Natives)	The groups will be selected based on their involvement and experience with invasive plant management or policy.
c. Description of groups or types of individuals that you are intentionally excluding, rationale for exclusion, and exclusion criteria	Participants unfamiliar with invasive plant management in Alaska. Knowledge of invasive plant management is critical to discuss priorities and lessons learned.
d. Description of recruitment process and recruitment materials	NA Please submit a copy of recruitment materials and messages in your IRBNet package.
e. Explanation of how recruitment is not burdensome or coercive to participants	No incentive will be offered and participation will be voluntary.
f. Description of plans (if any) to encourage the recruitment of minorities and women	NA

9. BENEFITS, INCENTIVES AND COMPENSATION, COSTS, AND RISKS

Note: Consent forms should reflect any risks or compensation described below.

Question	Response
a. Describe potential benefits (e.g., therapeutic or unique self knowledge) that individuals may receive from participating in this research	There is no direct benefit for participants beyond professional discussion.
b. Describe what new information may be learned from this research	Participant responses will provide insight into current land management agency priorities for invasive plant management.
c. Describe incentives to encourage individuals to participate in this research (including monetary or other compensation, thank you gifts, course or other academic credit, lotteries, etc.)	NA
d. Describe costs (time, monetary or other) for participants in this research	Participation will involve a short (approx 30 minute) survey or interview
e. Describe potential harms or discomforts (physical, psychological, social) for participants in this research	NA
f. Describe what you will do to minimize potential harms or discomforts to participants in this research	NA
g. Describe any potential harms to the culture or society that is the subject of this research	NA
h. Describe what you will do to minimize potential harms to the culture or society that is the subject of this research	NA

10. PARTICIPANT CONSENT / ASSENT

Unless a waiver is requested and granted, all participants should be fully informed about the research (purpose, benefits and potential harms from participation, procedures, duration of participation, and special accommodations for language or comprehension), informed consent shall be documented by a written and signed consent form and the participant shall be given a copy of the signed form. The recommended reading level for consent documents is the 8th grade. Guidelines and examples for consent/assent forms can be found at http://www.uaa.alaska.edu/research/ric/irb/documents.cfm. A copy of the consent documents must be included in the IRBNet package. Please submit these documents as a Word document or text file.

Consent	Description
Describe the process of obtaining consent to participate in this research	A statement of voluntary participation and consent will be included in the introduction language for the survey and/or interview
If the participants are minors, describe the process of obtaining assent to participate in this research	NA
Describe how you will communicate to	A statement of voluntary participation and consent will be

potential participants that their participation is voluntary and that they may withdraw from the research at any time without penalty	included in the introduction language for the survey and/or interview
Describe if there was any deception involved in the generation of archival data, or if there is any deception involved in the consent process prior to data collection	NA

Place an "X" in the first column if you requesting special accommodations to consent for this research.

	Request for Special Consent Procedures	Justification
	a. Elements of informed consent are presented orally and documented through a short written consent form; the process shall be documented by a witness	<<Overwrite Here>> In your IRBNet package, provide a written summary of what is to be said to the potential participant and a short form written consent document
X	b. Electronic acknowledgement of informed consent (e.g., SurveyMonkey)	Consent language included In your IRBNet package, include the language from the online survey which indicates acknowledgment of informed consent.
	c. Waiver of the requirement for documentation (written, audio or video) of informed consent	<<Overwrite Here>>
	d. Waiver of some or all of the elements of consent	<<Overwrite Here>>
	e. Approval of reading level greater than 8th grade in consent documents	<<Overwrite Here>>
	f. Approval for inclusion of participants whose primary language is not English	<<Overwrite Here>>
	g. Approval for inclusion of adults with diminished cognitive capacity	<<Overwrite Here>>

11. DATA STORAGE AND RETENTION

Required Information	Description
a. Describe how the data will be collected or recorded (e.g., *paper instruments, electronic records, field notes, audio/video recordings, notes, etc.)*	Data will be collected electronically through on-line survey software or it will be collected as notes in an in-person interview and will later be transcribed into electronic format.
b. Describe who will have access to	PI and advisory committee

the data	
c. Describe how you will maintain confidentiality of the data	Data will be collected anonymously
d. Do you have a federal Certificate of Confidentiality for this research?	No
e. Describe your plans for retention of data, where it will be stored, how long it will be stored, who will be responsible for maintaining and securing it, how it will be destroyed and when it will be destroyed	Data will be stored on State of Alaska secure network for 3 years at a minimum, maintained by PI and will be deleted from electronic storage.
f. Describe your plans for using the data you collect (e.g., published in journal or equivalent, non- published written report, presented at conference or equivalent, archive only)	Data will be used in a non-published written report.
g. Describe your plans for sharing the data and results with the community or population from whom the data were collected	Results of data will be made available to participants.
h. Describe how you will transfer, communicate and share data among research team members, including description of encryption or security protocols	Data will be transferred, if necessary, between PI and advisory committee electronically.
i. Describe where and how consent documents will be stored	Consent statement will be included with survey/interview introduction language.

12. SPECIAL PARTICIPANTS AND DATA CONSIDERATIONS:

a. PRINCIPLES FOR THE CONDUCT OF RESEARCH IN THE ARCTIC

In the table below, explain how your research proposal is responsive to the NSF Principles for the Conduct of Research in the Arctic (if applicable – see http://www.nsf.gov/od/opp/arctic/conduct.jsp).

b. HIPAA

If your research project involves the use of restricted private health information, please view IPAA information at http://www.uaa.alaska.edu/research/ric/irb/Resources.cfm, and explain in the table below below how your proposal is responsive to these requirements.

c. REQUIRED REPORTING OF ABUSE OR NEGLECT OF CHILDREN AND/OR VULNERABLE ADULTS

If your research has the potential to uncover actual or suspected cases of abuse or neglect of children or vulnerable adults, please consult the appropriate Alaska statute (47.17 Child Protection) to determine requirements for reporting such information at http://www.legis.state.ak.us. Please indicate in the table below how you will explain those requirements for reporting to potential participants.

d. FERPA

Family Educational Rights and Privacy Act, FERPA, (Title 34, Part 99 of the CFR). The regulations provide that educational agencies and institutions that receive funding under a program administered by the U.S. Department of Education must provide students with access to their educational records, an opportunity to seek to have the records amended, and some control over the disclosure of information from the records. With several exceptions, schools

must have a student's consent prior to the disclosure of educational records. In the table below, explain how your research is responsive to FERPA provisions.

e. SPECIAL PROTECTIONS FOR VULNERABLE POPULATIONS.

When applicable, researchers must document that additional protections of subpart B (Additional Protections for Pregnant Women, Human Fetuses and Neonates Involved in Research), subpart C (Additional Protections Pertaining to Biomedical and Behavioral Research Involving Prisoners as Subjects), or subpart D (Additional Protections for Children Involved as Subjects in Research) of 45 CFR part 46 have been met.

Place an "X" in the first column to indicate all of the following that are applicable to this research

	To Consider	Response
	a. Principles for the Conduct of Research in the Arctic	<<Overwrite Here>> Please explain how your research proposal is responsive
	b. HIPAA	<<Overwrite Here>>
	c. Required reporting of abuse or neglect for children or vulnerable adults	<<Overwrite Here>>
	d. FERPA	<<Overwrite Here>>
	e. Special protections for vulnerable populations	<<Overwrite Here>>

Research & Graduate Studies
University of Alaska Anchorage

3211 Providence Drive
Anchorage, Alaska 99508-4614
T 907.786.1099, F 907.786.1791
www.uaa.alaska.edu/research/ric

DATE:	November 25, 2013
TO:	Brianne Blackburn
FROM:	University of Alaska Anchorage IRB
PROJECT TITLE:	[525928-1] Development of a Methodology for the Prioritization of Invasive Plant Management in Alaska
SUBMISSION TYPE:	New Project
ACTION:	DETERMINATION OF EXEMPT STATUS
DECISION DATE:	November 25, 2013

Your Institutional Review Board (IRB) proposal meets the U.S. Department of Health and Human Services requirements for the protection of human research subjects (45 CFR 46 as amended/revised) as being exempt from full Board review. In keeping with the usual policies and procedures of the IRB, your research project is approved with suggested revisions. Thank you for a copy of these revisions.

Therefore, you have permission to begin data collection for your study. If this study goes beyond one year from the date of this submission, you will need to submit a Progress Report for approval to continue the research and please submit a Final Report at the end of your project.

Please report promptly proposed changes in the research protocol for IRB review and approval.

On behalf of the Board, I wish to extend my best wishes for success in accomplishing the objectives of your study.

Kelly McLain, M.A.

Research Compliance Director, Institutional Review Board

PM 686A Project Status Report Dashboard

Name: Brianne Blackburn_____ Date: 20 September 2013

Project Title: **Development of a Methodology for the Prioritization of Invasive Plant Management in Alaska**

Synopsis of Project	**Progress Since Last Report**
What it's about and what it will deliver? The goal of this project is to develop a model to assist in the prioritization of invasive plant management within the Department of Natural Resources, Division of Agriculture. The development of such a tool will allow for a more objective process that can inform our regulatory decisions and more clearly communicate agency goals and priorities to stakeholders. The end-product will be a matrix of risk-based criteria that can be used to guide decisions to prioritize invasive plant management in Alaska.	*Key tasks completed and key tasks started.* This is the first progress report for this project. Do date, the following project tasks have been completed (or started): • Project Charter • Stakeholder Register (initial-needs refinement) • Initial stakeholder engagement • Scope Statement (in progress) • WBS (in progress) • Schedule (in progress)
Current Status (Red / Yellow / **X** Green)	**Forecast**
Where am I now? Am I on track to meet next PPM deliverables? The next PPM (#2) is on track to be completed by deadline (October 4th). Many deliverables are in draft form.	*Is project tracking to next PPM and beyond towards project completion? (Big picture view)* This project is tracking as expected with initial planning documents and framework falling into place. A major challenge on the horizon will be to fully engage the necessary stakeholders to elicit their requirements.
Anticipated Changes/Key Risks/Corrective Actions	**Key Takeaways/Where Help Needed**
Imminent change, risks/responses, and corrective actions/timing required to keep project on track. No immediate changes anticipated at this time; however upcoming stakeholder engagement process may require additional effort or re-working the approach. While there is support for this project, many critical stakeholders may be challenging to pin down.	*Wrap up with key items and where help needed from stakeholders.* I will be working closely with my advisory committee to ensure that my requirements and risk identification are clear and complete. I have engaged a subject matter expert as a committee member and I anticipate much involvement in this next phase as the real framework of the project is lined out.

PM 686A Project Status Report Dashboard

Name: Brianne Blackburn_____ Date: 11 October 2013

Project Title: **Development of a Methodology for the Prioritization of Invasive Plant Management in Alaska**

Synopsis of Project	**Progress Since Last Report**
What it's about and what it will deliver? The goal of this project is to develop a model to assist in the prioritization of invasive plant management within the Department of Natural Resources, Division of Agriculture. The development of such a tool will allow for a more objective process that can inform our regulatory decisions and more clearly communicate agency goals and priorities to stakeholders. The end-product will be a matrix of risk-based criteria that can be used to guide decisions to prioritize invasive plant management in Alaska.	*Key tasks completed and key tasks started.* This is the 2nd progress report for this project. Project planning activities have been ongoing since August 30th. Since the last reporting (13 Sept 2013) • Project Scope • Initial requirements traceability matrix • WBS • Gantt Chart • Initial research methods and source identification • Report TOC • Key stakeholder discussion about project • IRB process started
Current Status (X)	**Forecast**
Where am I now? Am I on track to meet next PPM deliverables? The next PPM (#3) is on track to be completed by deadline (October 25th).	*Is project tracking to next PPM and beyond towards project completion? (Big picture view)* This project is tracking as expected with initial planning documents and framework falling into place. A major challenge on the horizon will be to fully engage the necessary stakeholders to elicit their requirements.
Anticipated Changes/Key Risks/Corrective Actions	**Key Takeaways/Where Help Needed**
Imminent change, risks/responses, and corrective actions/timing required to keep project on track. With the federal government shut down, many of the project's key stakeholders have been unavailable to discuss the project goals and further define the requirements. I have shifted my focus to other, available stakeholders and will need to dedicate time in the future to address this need. I do not think this will impact the overall objectives of the project, but will require some dedicated stakeholder engagement at a later date.	*Wrap up with key items and where help needed from stakeholders.* I would like to engage my advisory committee more in the coming weeks. I got some good feedback from the first PPM, but would like more contact. I will approach committee members individually to make this happen.

PM 686A Project Status Report Dashboard

Name: Brianne Blackburn_____ Date: 08 November 2013

Project Title: **Development of a Methodology for the Prioritization of Invasive Plant Management in Alaska**

Synopsis of Project	**Progress Since Last Report**
What it's about and what it will deliver? The goal of this project is to develop a model to assist in the prioritization of invasive plant management within the Department of Natural Resources, Division of Agriculture. The development of such a tool will allow for a more objective process that can inform our regulatory decisions and more clearly communicate agency goals and priorities to stakeholders. The end-product will be a matrix of risk-based criteria that can be used to guide decisions to prioritize invasive plant management in Alaska and a protocol on how to utilize the tool.	*Key tasks completed and key tasks started.* This is the 3rd progress report for this project. Project planning activities have been ongoing since August 30th. Since the last reporting (11 Oct 2013) • Submitted application to IRB 11.7.13 • Draft of PMP and subsidiary plans • Refining research methods • Refining survey/interview questions and protocol • Made initial contact with stakeholders to introduce the project goals (very well received).
Current Status (R / Y / **X**)	**Forecast**
Where am I now? Am I on track to meet next PPM deliverables? The next PPM (#3) is on track to be completed by deadline (November 22th).	*Is project tracking to next PPM and beyond towards project completion? (Big picture view)* This project is tracking as expected. Additional interest for this project has been expressed in my organization which will help move things along internally. This additional support will help in refining the research processes and facilitate the data collection which should be ready to move forward as soon as IRB process is complete.
Anticipated Changes/Key Risks/Corrective Actions	**Key Takeaways/Where Help Needed**
Imminent change, risks/responses, and corrective actions/timing required to keep project on track. Some minor language changes were requested for the project due to internal sensitivity with on-going regulation processes. These changes are relatively minor but will need to be made throughout project documents.	*Wrap up with key items and where help needed from stakeholders.* Will be engaging more with my SME committee member in the next two weeks to ensure that research methods/questions will deliver data that can be successfully analyzed. Will be seeking more feedback from rest of committee as well.

PM 686A Project Status Report Dashboard

Name: Brianne Blackburn_____ Date: 24 January 2014

Project Title: **Development of a Methodology for the Prioritization of Invasive Plant Management in Alaska**

Synopsis of Project	**Progress Since Last Report**
What it's about and what it will deliver? The goal of this project is to develop a model to assist in the prioritization of invasive plant management within the Department of Natural Resources, Division of Agriculture. The development of such a tool will allow for a more objective process that can inform our regulatory decisions and more clearly communicate agency goals and priorities to stakeholders. The end-product will be a matrix of risk-based criteria that can be used to guide decisions to prioritize invasive plant management in Alaska and a protocol on how to utilize the tool.	*Key tasks completed and key tasks started.* I completed 686A last semester (fall 2013). After some guidance from my committee, several elements of the project including the gantt chart, PMP format, and WBS were substantially revised to reflect a more accurate level of detail and a more realistic timeline. Since the end of fall semester, project tasks have been focused on researching other prioritization tools and methodologies and developing the survey
Current Status [ ] [X] [ ]	**Forecast**
Where am I now? Am I on track to meet next PPM deliverables? Some external project factors have created a delay in project activities. Some tasks are behind schedule and appropriate changes are in the work to get back on track.	*Is project tracking to next PPM and beyond towards project completion? (Big picture view)* Tasks and PPM deliverables are scheduled for completion on-time. Due to the delays, this will take some extra time committed, but is achievable.
Anticipated Changes/Key Risks/Corrective Actions	**Key Takeaways/Where Help Needed**
Imminent change, risks/responses, and corrective actions/timing required to keep project on track. Changes to PMP and other project documents reflect more detail. I don't foresee any other major changes to date.	*Wrap up with key items and where help needed from stakeholders.* Will be re-establishing formal check-in time with committee. The coming tasks will include more collaboration with my non-departmental committee member. Establishing that workflow now-ie collaborative documents.

PM 686A Project Status Report Dashboard

Name: Brianne Blackburn Date: 14 February 2014

Project Title: **Development of a Methodology for the Prioritization of Invasive Plant Management in Alaska**

Synopsis of Project	**Progress Since Last Report**
What it's about and what it will deliver? The goal of this project is to develop a model to assist in the prioritization of invasive plant management within the Department of Natural Resources, Division of Agriculture. The development of such a tool will allow for a more objective process that can inform our regulatory decisions and more clearly communicate agency goals and priorities to stakeholders. The end-product will be a matrix of risk-based criteria that can be used to guide decisions to prioritize invasive plant management in Alaska and a protocol on how to utilize the tool.	*Key tasks completed and key tasks started.* Completion of PPM #1 deliverables including an elaboration on the risk analysis, creation of a project journal and a closeout plan within the PMP. I have also collected all of my research data and have begun my data analysis.
Current Status 	**Forecast**
Where am I now? Am I on track to meet next PPM deliverables? To get back on track with the schedule, I shortened the amount of time I was collecting survey responses and am working to analyze and begin the development of my product which will be a decision tool based on the survey data.	*Is project tracking to next PPM and beyond towards project completion? (Big picture view)* Have been able to work to get closer to alignment with the schedule. As a risk response plan, I have identified a few key areas where the scope could be altered to keep the project on target for completion, should the need arise. Otherwise, work is tracking towards completion
Anticipated Changes/Key Risks/Corrective Actions	**Key Takeaways/Where Help Needed**
Imminent change, risks/responses, and corrective actions/timing required to keep project on track. Continual updating to PMP and project documents. Working towards a project narrative as the project is progressing to make the final report and closeout process smoother.	*Wrap up with key items and where help needed from stakeholders.* The coming tasks will include more collaboration with my non-departmental committee member. Establishing that workflow now-ie collaborative documents.

PM 686A Project Status Report Dashboard

Name: Brianne Blackburn_____ Date: 07 March 2014

Project Title: **Development of a Methodology for the Prioritization of Invasive Plant Management in Alaska**

Synopsis of Project	**Progress Since Last Report**
What it's about and what it will deliver? The goal of this project is to develop a model to assist in the prioritization of invasive plant management within the Department of Natural Resources, Division of Agriculture. The development of such a tool will allow for a more objective process that can inform our regulatory decisions and more clearly communicate agency goals and priorities to stakeholders. The end-product will be a matrix of risk-based criteria that can be used to guide decisions to prioritize invasive plant management in Alaska and a protocol on how to utilize the tool.	*Key tasks completed and key tasks started.* Completion of PPM #2 deliverables and achieved the 1st "Go" checkpoint. Data is collected and analyzed and is being developed into criteria that will make up the decision tool that will be the product of the project. Continued Literature research regarding other decision analsysis tools and how they are applied. Finding lots of great examples of how to pull this information together and develop it into a consistent, repeatable process.
Current Status (Red / Yellow / X)	**Forecast**
Where am I now? Am I on track to meet next PPM deliverables? In the crunch time for developing the tool itself and writing my paper. Things are on track, but it will be a busy couple weeks.	*Is project tracking to next PPM and beyond towards project completion? (Big picture view)* Changes to get back on track with the schedule worked well. Things are getting very busy for me at work which means I will be dedicating more time outside of work to meet my deliverables. Still on track.
Anticipated Changes/Key Risks/Corrective Actions	**Key Takeaways/Where Help Needed**
Imminent change, risks/responses, and corrective actions/timing required to keep project on track. Continual updating to PMP and project documents. Working towards a project narrative as the project is progressing to make the final report and closeout process smoother. Will provide advising committee a better picture of what the final product will look like between now and next PPM.	*Wrap up with key items and where help needed from stakeholders.* Good input from committee with helpful information on how continue to measure success with the knowledge areas. Will be looking to advising committee for input on sections of the final report as I am working.

PM 686A Project Status Report Dashboard

Name: Brianne Blackburn_____ Date: 04 April 2014

Project Title: **A Methodology for the Prioritization of Invasive Plant Management in Alaska**

Synopsis of Project	**Progress Since Last Report**
What it's about and what it will deliver? The goal of this project is to develop a model to assist in the prioritization of invasive plant management within the Department of Natural Resources, Division of Agriculture. The development of such a tool will allow for a more objective process that can inform our regulatory decisions and more clearly communicate agency goals and priorities to stakeholders. The end-product will be a matrix of risk-based criteria that can be used to guide decisions to prioritize invasive plant management in Alaska and a protocol on how to utilize the tool.	*Key tasks completed and key tasks started.* Completion of PPM #3 deliverables and achieved the 2nd "Go" checkpoint. The product of the project has been drafted and is undergoing it's final review by stakeholders. An outline of the final presentation has been developed and there has been further refinement on the final paper based on feedback from advising committee. Substantial content was added to the introduction of the paper to give more background and justification for the need.
Current Status (X)	**Forecast**
Where am I now? Am I on track to meet next PPM deliverables? Things are going well at this point-the details are filling in nicely for the paper. As predicted, the review process for the product has been a little slow and risk response measures will likely need to be employed which will move some of the refinement process for the tool out of scope for this project.	*Is project tracking to next PPM and beyond towards project completion? (Big picture view)* Project is tracking. I'm finding lots of places to add content to the paper and do not expect any issues with the page requirements. This weekend and early next week will give me information to make final decision on if more testing will need to be done on the tool, which would fall out of scope of this project and not impact course deliverables.
Anticipated Changes/Key Risks/Corrective Actions	**Key Takeaways/Where Help Needed**
Imminent change, risks/responses, and corrective actions/timing required to keep project on track. As mentioned above, final testing and refining of the product may continue after the close of the project, but as an identified risk, processes were put in place to prevent this impacting the overall success of the course deliverables.	*Wrap up with key items and where help needed from stakeholders.* I will be submitting some sections of my paper (and hopefully the presentation) at the end of the weekend for committee input since some substantial content was added.

Development of a Methodology for the Prioritization of Invasive Plant Management in Alaska

Project Closeout Report

April 2014
V. 1

Revision History

Date	Author	Description of Change
22 April 2014	B. Blackburn	Original

Table of Contents

Development of a Methodology for the Prioritization of Invasive Plant Management in Alaska

1 Closeout Plan

Project closure took place as planned –concentrated in the last two weeks of the semester, but various closeout processes were on-going throughout the execution phase of the project.

Final project closeout efforts will be concentrated in the last two weeks of the semester, but will be made up of the final steps in processes that were on-going through execution of the project. Project closeout plan deliverables will include confirmation of acceptance criteria, final reporting, project evaluation, and final approval.

1.1 Acceptance Criteria

Final acceptance was based on project deliverables and was achieved and documented through the Acceptance Criteria Checklist (see appendix).

1.2 Project Evaluation

The project structure will be evaluated for efficacy and completeness during the closeout process. This will include an evaluation of the following factors:

- **Schedule and WBS**: only moderate changes were made to the WBS during the execution phase of the project therefore planning activities for this task were adequate. Due to both identified and unidentified risk occurrences, some changes were made to the schedule to compress tasks. Most schedule alterations did not have a substantive impact to the project, however, near the end of the project, more comprehensive testing and simulation were removed from scope due to time constraints.

  Recommendation: More accurate risk identification could allowed for risk mitigation measures that could have alleviated some schedule issues. In the future, a recommendation is made to more thoroughly consider the risks and all of their impacts.
- **Change Management Processes:** Change management thresholds were not breached until the very end of the project and project remained on track.

  Recommendation: Consider tighter change management thresholds which could allow for more control on the schedule. Major "red zone" thresholds were not breached, but SPI fluctuation warranted minor changes by the PM to get the project back on track.
- **Communication Management:** Communication improved throughout the project and documented feedback was incorporated into the planning and

execution phase. Early documented "lessons learned" emphasized the need to communicate "early and often" which led to the implementation of re-occurring, scheduled check-in meetings with advisory committee.

- **Scope Management:** Scope was managed at each control/monitoring checkpoint (major milestones) where the PM confirmed the scope and evaluated necessary changes to achieve the project objectives. This process was documented in the project journal and allowed for preparation for upcoming tasks.
- **Risk Analysis and Management:** An initial risk register was drafted and was updated throughout the project to reflect previously un-identified risks.

  Recommendation: At several points throughout the project, tasks were behind due to risk occurrences. In the future, a more comprehensive risk assessment including both risk identification and full impact analysis will alleviate impacts to tasks through implementation of planned risk responses (see risk realization Matrix)
- **Stakeholder Management:** Thorough stakeholders identification and prioritization was performed as outlined in the PMP.

  Recommendation: While communication with SME stakeholders was effective, more follow-through with advisory committee and upper management would have facilitated more timely feedback and prevented rework.
- **Earned Value Metric** data was collected and tracked throughout project execution. This data and resulting SPI trigger (see appendix)

Lessons Learned

Throughout execution, lessons learned will be documented through the project journal. The project evaluation process will result in a compilation of lessons learned and recommendations to be added to the project database. See archived project documents for Lessons Learned Repository.

1.3 Final Reporting

A final report was compiled throughout the closure process and will review all functional and technical components as well as project history. This report includes:

- Project Abstract and Key Words
- Literature Review Results
- Research Methods/Approach
- Analysis
- Results
- Conclusions
- Recommendations for further research
- All execution/documentation files

Please see archived documents for the Final Report.

1.4 Closeout Approval

Once all closeout activities have been completed and verified via appropriate checklist as described in previous sections, the complete documentation will be compiled by the PM and reviewed with the Project Sponsor prior to archival.

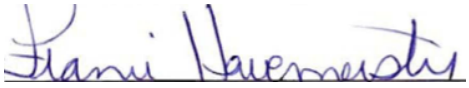
Prepared By: Brianne Blackburn

Signature: 

Job Title: Project Manager

Approved By:

Name: Franci Havemeister

Signature: 

Job Title: Project Sponsor

Acceptance Criteria Checklist

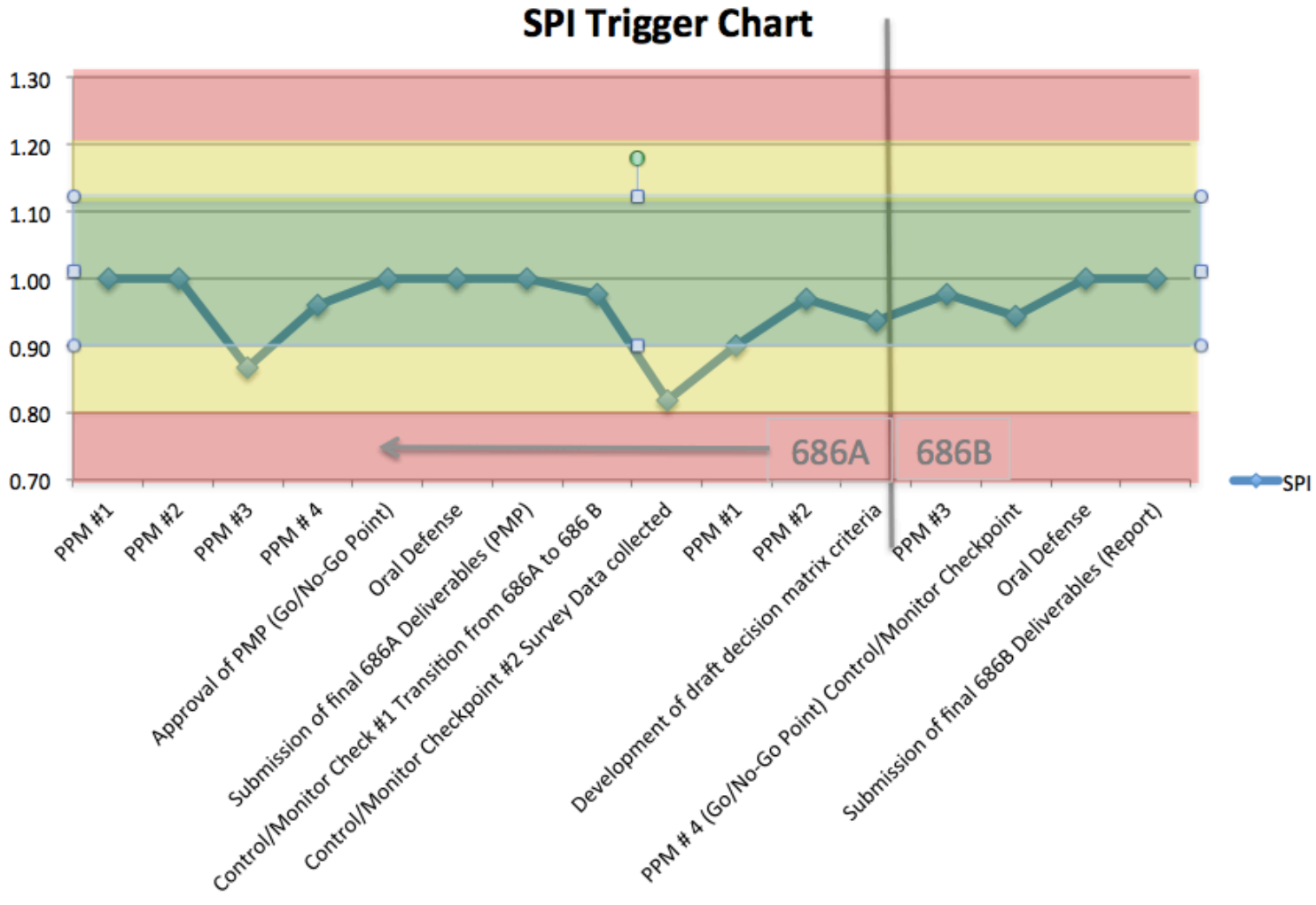
Project Title: Development of a Methodology for the Prioritization of Invasive Plant Management in Alaska

Project Manager: Brianne Blackburn

Success Criteria	Measure	**Criteria Met?**	**Notes**	**Initials**
Stakeholder participation (surveys)	15 or more responses to surveys	Yes	52 survyes taken, 41 completed	BB
Repeatable and objective tool	Simulation of draft tool with standard species profile performed by more than 1 tester achieving the same overall prioritization/classification	Yes*	Initial, cursory simulation was run with two stakeholders. Full simulation was removed from scope due to time constraints. This was approved through change process	BB
Management priorities based on current available science	Identification and documentation of relevant peer reviewed literature supporting decision matrix criteria	Yes		BB
Communication with stakeholders	No less than three (3) scheduled opportunities for contact with participating stakeholders (discussion of goals, survey, follow up, thank you)	Yes	3 main contacts made with stakeholder group	BB

Risk Realizaton Matrix				
Project Title: Development of a Methodology for the Prioritization of Invasive Plant Management in Alaska				
Project Manager: Brianne Blackburn				
Description of Risk	**Planned or Unplanned?**	**Mitigation**	**Response**	**Impact**
Some stakeholders were not aware of efforts and therefore their input was not received	Unpanned	Was not identified to plan for mitigation efforts, initially. Since re-occurance is possible, notes have been made to make use of listserv that would access	Individually meet and discuss project with those that were missed and have expressed interest. Invite them to have input in the remaining tasks	Re-work to incorporate missed input. 1 day
Outside priorities impact the PMs ability to dedicate the scheduled time	Unplanned	Was not identified to plan for mitigation efforts, initially. Since re-occurance is possible, reduce coursework to allow buffer for other priorities in second semester; Identify areas for potential re-scoping to still meet project needs	Adjust schedule/scope to meet primary objectives-or-defer coursework to next available semester	Schedule delays-remove items from scope
Lack of stakeholder involvement during planning will delay development of project deliverables	Planned	Was not identified to plan for mitigation efforts	Accept: was able to shift planning activities that involved external stakeholders until later in process. No significant impact for this occurrence	Rework
On-going regulatory process shifts agency priorities	Planned	Limit these items from scope	Fully remove regulatory aspec	Minor language changes-rewor

EVM Tracking										
Project Title: Development of a Methodology for the Prioritization of Invasive Plant Management in Alaska										
Project Manager: Brianne Blackburn										
Reporting Milestone	**Scheduled Completion**	**Planned Measure of Project Progress**	**Percent Complete**	**Planned Value (days)**	**BAC (days)**	**EV (days)**	**SPI**	**SV**	**EAC (days)**	**ETC (days)**
PPM #1	13-Sep-13	5%	5%	8	169	8	1.00	0.00	169	161
PPM #2	4-Oct-13	10%	10%	17	169	17	1.00	0.00	169	152
PPM #3	24-Oct-13	15%	13%	25	169	22	0.87	-3.38	195	173
PPM # 4	22-Nov-13	25%	24%	42	169	41	0.96	-1.69	176	135
Approval of PMP (Go/No-Go Point)	29-Nov-13	30%	30%	51	169	51	1.00	0.00	169	118
Oral Defense	3-Dec-13	35%	35%	59	169	59	1.00	0.00	169	110
Submission of final 686A Deliverables (PMP)	9-Dec-13	40%	40%	68	169	68	1.00	0.00	169	101
Transition from 686A to 686 B **Control/Monitor Checkpoint #1**	10-Dec-13	45%	44%	76	169	74	0.98	-1.69	173	98
Survey Data collected from key stakeholders **Control/Monitor Checkpoint #2**	1-Feb-14	55%	45%	93	169	76	0.82	-16.90	207	131
PPM #1	7-Feb-14	60%	54%	101	169	91	0.90	-10.14	187.78	97
PPM #2	28-Feb-14	65%	63%	110	169	106	0.97	-3.38	174.37	68
Development of draft decision matrix criteria	1-Mar-14	80%	75%	135	169	127	0.94	-8.45	180.27	54
PPM #3	21-Mar-14	85%	83%	144	169	140	0.98	-3.38	173.07	33
PPM # 4 (Go/No-Go Point) Control/Monitor Checkpoint #3	11-Apr-14	90%	85%	152	169	144	0.94	-8.45	178.94	35
Oral Defense	21/22 Apr 2014	95%	95%	161	169	161	1.00	0.00	169.00	8
Submission of final 686B Deliverables (Report)	28-Apr-14	100%	100%	169	169	169	1.00	0.00	169.00	0


SPI Trigger Chart
1.30
1.20
1.10
1.00
0.90
0.80
0.70
686A
686B
SPI
PPM #1
PPM #2
PPM #3
PPM # 4
Approval of PMP (Go/No-Go Point)
Oral Defense
Submission of final 686A Deliverables (PMP)
Control/Monitor Check #1 Transition from 686A to 686 B
Control/Monitor Checkpoint #2 Survey Data collected
PPM #1
PPM #2
Development of draft decision matrix criteria
PPM #3
PPM # 4 (Go/No-Go Point) Control/Monitor Checkpoint
Oral Defense
Submission of final 686B Deliverables (Report)

Project Management Capstone Project

Knowledge Area Narrative

Brianne Blackburn
PM 686B
April 2014

Development of a Methodology for the Prioritization of Invasive Plant Management in Alaska

The Project Management Body of Knowledge (PMBOK) presents a standard terminology and guidelines for project management. The PMBOK is a processes-based guide that recognizes five basic process groups and ten knowledge areas (PMI, 2013).

The following knowledge areas were emphasized throughout this project to demonstrate understanding and mastery of project management principals.

Communications Management

Communications Management includes the processes required to ensure timely and appropriate generation, collection, distribution, storage, retrieval, and ultimate disposition of project information. This project involved incorporating subject matter experts and agency input throughout the planning and execution of this project through interviews and surveys. It was critical to communicate the goals and progress of this project to elicit the needed input in a timely manner. The goal for demonstrated this knowledge was to ensure that stakeholders were informed and aware of the project and the project goals. For the For the product of the project, this effort has included individual discussion with key stakeholders (both internal and external) and presentation of information to a large audience at an annual industry conference. Continued communication efforts involved regular, scheduled communications with the appropriate individuals and organizations to inform them of the availability project survey. This goal was tied to a project critical success factor which required a minimum participation in the survey. This minimum was set at 15 survey responses and the project elicited over 41 fully-completed surveys.

Risk Management

Risk Management includes the processes concerned with conducting risk management planning, identification, analysis, responses, and monitoring and control on a project. Assessment of risk is at the heart of this project on two separate levels. For the project planning purposes, risk management was employed to ensure that the project activities were realistic and scheduled appropriately. Because much of this project depends on the timely input from outside stakeholders, the management of stakeholders was a critical risk to properly analyze and mitigate during planning and throughout the project.

The project product, the prioritization tool, itself was based on risk-based criteria, which is essentially a series of risk assessments, with the result driving the prioritization of invasive plants. This project was largely a process of identifying the risks to our economic, natural, and agricultural resources and how, as an agency, we can prioritize the mitigation and responses for those risks. Therefore, much value can be gained for this project by applying the same risk principles to the development of the product, in addition to the planning process itself.

In recognition of the dynamic nature of risk in the project environment, the goal for demonstrating mastery of this knowledge area was to continually revisit and update the risk processes. This was achieved by setting phase-gate checkpoints throughout the execution of the project where risk occurrences were documented, upcoming risk environment was reviewed, and previously identified risks were re-visited to ensure impacts and chance of reoccurrence were accurately reflected. The output of this process is a progressively elaborated risk assessment.

Stakeholder Management

Stakeholder Management includes the processes required to identify the people, groups, or organizations that could impact or be impacted by the project, to analyze stakeholder expectations and their impact on the project and to develop appropriate management strategies for effectively engaging stakeholders in project decisions and execution. These processes will be closely linked to the Communications Processes mentioned previously.

The product of this project is a methodology by which statewide management priorities and regulations are set. This has the potential to impact a broad range of stakeholders from the agricultural and horticultural industry, state and federal agencies, and private landowners. With this large or a stakeholder list, it was critical to engage, thoroughly identify requirements and monitor perception of the project. The decisions that will ultimately be made using this tool will be part of the public process and will therefor live or die by stakeholder perception. Stakeholder identification, analysis, and prioritization were critical to ensure that appropriate information is communicated to stakeholders in a timely manner so feedback could be incorporated into the development of this tool. A stakeholder register was created and maintained throughout the project which to assist in the identification of the individual or stakeholder group, their requirements, and general communication information. Stakeholders were also prioritized, which will help ensure that appropriate attention is given to address the various stakeholder needs at the appropriate times throughout the project. The survey effort was the primary way that stakeholder input was collected for the development of the tool, however, a small subset of subject matter experts were also asked to provide feedback on the tool itself in its various iterations.

References

Project Management Institute (PMI) Guide to Project Management Body of Knowledge (PMBOK) 5th Edition (2013)

Project Management Capstone Project

Lessons Learned

Brianne Blackburn
PM 686B
April 2014

Development of a Methodology for the Prioritization of Invasive Plant Management in Alaska

A project consists of countless opportunities for success and failure. These experiences can provide a project team or organization with knowledge that can be leveraged to inform and improve future actions. To fully realize this future benefit from these experiences, more must be done than simple passive recognition. To successfully learn the lesson, the experience must be more thoroughly analyzed for the root cause, generalized to extract a learning point, and suggestions must be made for future activities to change behavior and ultimately improve the outlook for success. By documenting these processes, the project team offers a greater likelihood that they themselves, or others confronted with similar tasks can make more informed decisions when planning projects.

This project was the first that I have been involved with from start to finish with this detailed project management structure of planning, implementation, and monitoring so the opportunities for lessons learned were many. This two-semester PM 686A/B structure offered a natural transitional opportunity to pause and reflect on the processes and make changes. At the end of the first semester, I identified a series of lessons learned that proved valuable as I moved on to the second semester and was able to implement some of my own recommendations. As a summary of this, I have identified a series of key lessons learned both as they apply to the coursework requirements and the project itself including a discussion of how some of those recommendations were implemented throughout the lifetime of the project.

Planning

Much of the planning process hinged on the Institutional Review Board (IRB) approval. An "exempt status" was expected for this project, though the process to achieve this approval was longer than estimated. In the future, recommend starting any approval processes like this that rely on external entities with at least twice the recommended time.

Past PM Program project documentation is available and provides a good framework for how to structure many planning documents including the PMP. I did not review much of this material in depth until late in the first semester, which lead to some later re-work. Reviewing other projects early in the process can present an opportunity to learn from others and help set a framework for the project. This is much more helpful early in the process as changes further into planning or execution can be more cumbersome. Recommendation: Spend time at the beginning of the planning process reviewing other project's documentation.

Scheduling

At several points throughout the project, tasks were behind due to risk occurrences. In the future, a more comprehensive risk assessment including both risk identification and full impact analysis will alleviate impacts to tasks through implementation of planned risk responses. Recommendation: more thorough risk assessment.

Change

Action thresholds planned were set relatively loosely (SPI< .8) for this project and therefore the change management process was only triggered once-and it was a preemptive measure. Because the project's overall timeline was relatively short, a .8 SPI would have been significant. The PM had direct control over all tasks in the project and had the capacity to implement minor changes throughout the project to ensure project tracked appropriately which suggests that tighter thresholds may allow for finer control on future projects. Recommendation: Tighter change management thresholds. Tighter thresholds may also lead to micromanaging the schedule so this recommendation would need to be more fully evaluated within the context of the project.

Stakeholder

Strong low interest-High power stakeholder support can really help move a project forward. This was achieved late in the planning process for this project which, had it been achieved earlier in the project could have represented a strong opportunity for project progress. Recommendation: spend more time early in the planning process to achieve high power stakeholder support.

The feedback offered by committee proved to be very valuable throughout the project and when getting this feedback is delayed, it can lead to missed opportunities and

rework as experienced in the first semester of this project. It took a good portion of the semester to establish a pattern of meeting and requesting feedback from committee members, which lead to some communication breakdown and confusion. During project execution, I was able to get feedback on a much more regular schedule which proved very beneficial. Recommendation: plan consistent opportunities to get feedback and check in with relevant stakeholders early in the planning process.

The PM was not formally documented as a stakeholder in the risk analysis, which lead to a gap in the assessment of the impact of a risk. As a result, a change was made during execution to address this risk individually to prevent future occurrences. Had it been identified at the onset of the project, schedule delays could have been avoided. Recommendation: More thorough risk assessment as it relates to all stakeholders including internal to the project.

Scope

The initial scope was too broad and was unrealistic for the project time constraints. This was acted on relatively early in the project, but took several iterations and re-work during planning. Recommendation: Keeping the scope more narrow and realistic

References

Project Management Institute (PMI) Guide to Project Management Body of Knowledge (PMBOK) 5th Edition (2013)

Project Charter

Information

Project Name :	Development of a Methodology for the Prioritization of Invasive Plant Management in a Regulatory Environment
Project Manager:	Brianne Blackburn, Invasive Plant Program Coordinator
Project Sponsor:	Stoney Wright, Manager- Alaska Plant Materials Center
Prepared By:	Brianne Blackburn

Revision History:

Date	Author	Description of Change
13 Sept 2013	Brianne Blackburn	Original

Description

The Department of Natural Resources, Division of Agriculture maintains the Plant Health and Quarantine Regulations as they pertain to Invasive Plant Management in Alaska. These regulations involve the designation of invasive plants as prohibited and restricted noxious weeds based on management priorities. The goal of this project is to develop a model based on subject matter expert and land management agency priorities and tolerances for invasive plants. A model would incorporate a matrix of risk-based criteria that can be used to guide decisions to prioritize invasive plant for management in Alaska. The development of such a tool will allow for a more objective process that can inform our regulatory decisions and more clearly communicate our goals and priorities to stakeholders.

Scope

The scope of this project includes:

- Identifying key stakeholders
- Assessing current stakeholders priorities and tolerances for invasive plants in Alaska
- Creating a set of criteria to evaluate relevant invasive plant species based on identified priorities
- Further developing the criteria into a repeatable process or model that can be updated and utilized as necessary to inform regulatory decisions

Objectives

Project Objective	Agency Goals
Identify and assess subject matter expert priorities	Prioritize management of invasive plants in Alaska

Project Objective	Agency Goals
Development of a model to prioritize plant species	Create objective processes to inform policies and regulations

Critical Success Factors

- Stakeholder participation
- Repeatable and objective model and methodology
- Management priorities based in current, available science
- Communication with stakeholders

Milestones

- Identification of key stakeholders
- Development of process to collect information from SME (surveys, interview)
- Execute information gathering processes
- Analyze information collected from SME's
- Development of risk-based criteria
- Development of model and methodology to prioritize management efforts

Assumptions

- Continued agency support for project
- Stakeholder/SME will participate in a timely manner with information gathering

Constraints

- Availability of SME
- Advising agency personal have limited availability

Risks/Opportunities

- Lack of engagement by key stakeholder groups
- Contradicting stakeholder priorities
- On-going regulatory processes will

Stakeholders

Internal

- Division of Agriculture Director
- Deputy Commissioner of DNR
- PMC Manager
- Inspection Staff
- DNR Attorney General

External

- Agricultural Industry
- Horticulture Industry
- Soil and Water Conservation Districts
- Cooperative Weed Management Areas

- UAF Cooperative Extension Service
- BLM
- US FS
- NPS
- ADF&G
- DOT
- Outside State Noxious Weed Boards/Councils
- UAA MSPM Advisory Committee

Roles and Responsibilities

Role	Responsibilities
Executive Sponsor	• Project Advocate • Support business case
Sponsor	• Project advocate • Advise on project direction • Advise on risk management
Advisory Committee	• Review project progress • Advise on content
Project Manager	• Ensure timely and effective communication • Maintain schedule and communicate project status

Signatures

Project Manager:

Brianne Blackburn

Project Sponsor:

Stoney J. Wright

THE STATE of ALASKA
GOVERNOR SEAN PARNELL

Department of Natural Resources

DIVISION OF AGRICULTURE
Plant Materials Center

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September 10, 2013

University of Alaska Anchorage
Project Management Department
University Center, Rm 155
3901 Old Seward Highway
Anchorage, AK 99503

Attn: Ms. LuAnn Piccard

Re: Brianne Blackburn PM686 Project Support

Dear Ms. Piccard

The purpose of this letter is to express my support for Brianne Blackburn's final MSPM project to develop a model for prioritizing invasive plant management within DNR, Division of Agriculture. The development of such a tool would allow for a more objective process that can inform our regulatory decisions.

As a state agency, our need for effective communication of our agency goals and regulations to our stakeholders is a high priority. Brianne's work will address this need and will serve to further develop the Invasive Plant Program's processes and methodologies.

Please feel free to contact me at any time regarding Brianne's project with the Division of Agriculture.

Sincerely,

Stoney Wright

Stoney J. Wright
Manager